THE BUILDER

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ARCHITECTURAL VALUES.

WE note that Bramall Hall—situated about 7 miles from Manchester—has now been on the market for the better part of a year. The price asked for the house alone is £20,000; for the house and grounds, £30,000. Bramall Hall has been called "perhaps the finest specimen in England of the half-timbered style; its history and part of its fabric go back to the time when Richard the Third was on the throne."

Many lovers of architecture will, no doubt, see in this another example of the indifference of the public towards architecture. We do not entirely agree with this view, believing as we do that this type of building has always been appreciated by the public, and that real appreciation has little connection with money values. There have been numerous attempts during recent years to try to interest the public in architecture, and the general conclusion seems to be that the public cannot have much interest in modern architecture when it neglects old buildings which are admitted to be good. This is true if we are to measure public appreciation by the amount of money it is willing to subscribe individually, but we must remember that architecture is a functional art, and it is only when it fails functionally that it ceases to be of service to the individual. It is then that the public as a body comes into the question financially; the homage of the public always existed.

The nation is materially altered by the war, by the direct increase of the burden of taxation, and temperamentally altered by the different outlook upon life and the acceleration of certain changes in the mode of living. These changes in the national temperament must inevitably have their effect upon the arts. During the past few years it has become increasingly difficult to find purchasers willing to take the responsibility of maintaining large establishments, financial and domestic difficulties still being serious post-war considerations. Heavy taxation is gradually compelling the great landed families to close or sell their ancestral homes and estates. The Duke of Northumberland, it is stated, has just decided to close his famous castle at Alnwick, and the Duke of Portland has made the statement that after him his family will probably be unable to maintain Welbeck. Pleasantly situated as Bramall Hall is, its proximity to the large manufacturing areas might conceivably deter a purchaser who had no business interests in the neighbourhood. Ways and means are the practical considerations which we must bear in mind when we attempt to assess the commercial value of architecture, which, again, may have no relation either to architectural values or to the standards by which we measure public taste.

The fact that America gave £100,000 for Gainsborough's "Blue Boy" has no bearing either upon art values or upon æsthetics, when we realise that there is difficulty in obtaining a moderate price for an old and beautiful building. In the jargon of the collector, the word genuine is understood; applied to architecture, it has no significance. If we distinguish between a picture and a building, we make a distinction between the assessment of art values and the commercial value of art; between a functional art and a simple art. If by any chance there is a picture in existence of Bramall Hall, say by Reynolds, we could be assured that there would be little difficulty in obtaining for it three times the figure asked for the actual building—also a masterpiece. "No sum is too much for the possession of this unique work," is a sound doctrine for the art collector, but in architecture the advice has no commercial meaning. Fine buildings do not appreciate in commercial value as they get older, but they become more valuable to those who love good architecture. Certain pictures if they are good—and many that are bad—appreciate in commercial value as they get older, and, provided that the signatures are genuine, the buying and selling of pictures becomes a business which combines the pleasures of the art lover with the excitement of the Stock Exchange. If painters and littérateurs who lecture upon architecture could free themselves from the humbug which surrounds most of our art and art criticism they would be in a position to render a great service to architecture. A building has a function to fulfil, and if it does it well and beautifully it has served its purpose nobly. Architecture in the minds of some may seem to fail when its inherent beauty is deliberately sought and accepted as an aid to commerce, but surely this is a small flaw when we know that no fictitious commercial value will be attached to it in its old age. An art which creates no posthumous values for owners and collectors might be allowed to concede some reflected glory to its patrons in its youth. A building is not a collector's piece; if it were, fine architecture would apparently become priceless. As it is, it approaches as near to the ideal "art for art's sake" as we are likely to get in this imperfect world. A criticism which is too exclusive and intellectual for the public to understand has dangers for any functional art.

We make a mistake when we discuss architecture in terms of another art, and we set up a false basis of criticism which the public cannot be expected to understand when we compete for rare objects of art, and gladly pay fabulous sums which have no relationship to any scale of values. The theory of collecting is associated with the idea of ownership, and we believe that this human foible is largely responsible for forming our artistic tastes, and for providing the basis of much of our current art criticism. There is a great deal in this theory, and if it were understood thoroughly there would be less conventional nonsense talked and written about the lack of public interest in objects of art which are the common property of everyone. It is because architecture addresses itself to the multitude free of cost that the individual feels no obligation to contribute anything towards saving it from destruction. Urgent appeals are being made for thousands of pounds for the restoration of St. Paul's Cathedral, while the cathedrals of Lincoln, Ely, and Peterborough have their needs. If the public neglects its duties towards these works of art it proves that we have, as individuals, a fine sense of the commercial value of art through private ownership, but that collectively some authority should be empowered to act on our behalf. There is no Sir John Duveen to collect architecture; there are no fashionable sales at Christie's for architectural treasures, and no one has any financial interest in preserving "places of historic interest or natural beauty." We are, therefore, in sympathy with the suggestion of the *Manchester Guardian* that Bramall Hall should be purchased by some authority as a museum to be preserved "in all respects as it was in the time of its splendour as a mansion."

We cannot preserve all our old buildings, nor is it healthy in any art that the dead should stifle the living, but we cannot afford to lose any examples of English building which show the traditional development of materials and architecture. The chances are now very remote that a British architect will ever be commissioned to build a great monumental palace comparable with, say, Blenheim or Castle Howard. For these reasons it seems essential that those that are built shall remain, so that the student and the historian of architecture may have a definite and completed subject to form a history of the great English country house.

NOTES.

Housing Fees.

THE new Housing Memorandum, No. 61 (given on p. 172), is welcome in that it meets the more glaring injustices and oversights incidental to its predecessor, G.H.M. No. 52. The recognition that an architect may be entitled to payment for services involved in preparing plans which for reasons over which he has no control may never have received the approval of the Ministry is only elementary justice, as is also the more liberal nature of travelling allowances. We hope local authorities, with this Memorandum before them, will act immediately, and, in the concluding words of the Memorandum, "make prompt settlement, or substantial payments on account, in respect of the amounts payable to their architect for professional services rendered."

The R.I.B.A and Housing.

THE new R.I.B.A. Council should be reminded that its predecessors had undertaken, as the result of a widely-expressed demand, to formulate a scheme under which architectural advice would be available, at adequate and agreed rates, to those who in future will be erecting houses under private enterprise. The late Practice Committee had taken up the matter, and in its report published in the R.I.B.A. *Journal* for April 22, under the heading "Architects and Speculative Building," had made certain recommendations to the Council. This is a matter widely affecting the prosperity of the country, and, incidentally, of the architectural profession, and it is to be hoped the new Council will deal with the question promptly and efficaciously.

[Our old churches contain many interesting old chairs such as this, which stands under the tower of Aldenham Church.]

Competitions and Acoustics

THE relative merits and demerits of architectural competitions have frequently been discussed. Their greatest value lies in the opportunity given to unknown men of talent who might not otherwise get the chance of carrying out work on a large scale; their disadvantages are that a man can hardly put as much zest into a design when at the back of his mind he is conscious that the chances of it ever being executed are remote. But a still greater objection is that the architect must always keep one eye on the assessor. This point was referred to in connection with the new County Hall, by Mr. Hope Bagenal in a *Daily News* article of July 27, and is also referred to by him in an article in this issue. It is clear that if an architect were given a free hand to design a council chamber he would inquire into the question of acoustics and produce the best combination of acoustics and design that he could; unfortunately, "a good acoustic design will by no means necessarily coincide with popular notions of a dignified interior, and his (the competitor's) chance of success lies in a compromise after the competition has been won." It is obvious that this course had to be followed by the architect of the new County Hall. Mr. Bagenal's statement is undoubtedly true, and it is the strongest argument at the disposal of those who contend that the best work cannot be obtained through competitions, at least as they are at present carried out.

Architects and Acoustics.

A LEADING article in *The Times* for July 31 illustrates the unfortunate impression which has got about that architects know nothing of acoustics. Does *The Times* know nothing of the exhaustive researches of Professor Sabine at Harvard, of Professor Watson at Illinois, or much other experimental work in this connection which is available in published form? Nothing could be more injurious to the architectural profession than to create a public belief that they are behind the times and out of touch with present-day life. English architects have been invited by Professor Paul Sabine to correspond with him on all matters relating to acoustics.

Schools versus Pupilage.

THE comparison of values between the old pupilage system and the generally-accepted substitution of work in the architectural schools was emphatically stated by Sir Reginald Blomfield in his address at the A.A. last week. He expressed surprise that there should be any attempted reversion to the pupilage system, and claimed that even if the work of the schools led to a stereotyped kind of design the balance was to the good and the drawbacks overcome. Sir Reginald may claim in support of his view that the admirable building done all over the country from Jacobean times down to, and including, the Georgian work was of an accepted and stereotyped vogue and gave us a simplicity and breadth of effect which is largely missing in our modern work. The escape from an accepted vogue in the work of artists who make pictures cannot lead to such permanent harm as a fatuous and unhappy licence in the design of buildings such as we may see in many buildings of the *l'art nouveau* type in Belgium and Paris to-day, and we can well imagine the desire of professors to escape from that, even if it is replaced by dull mediocrity.

[This sketch is interesting as showing the Jacobean modification and treatment of a Gothic finial design.]

Victoria-street Improvements

PASSING along Victoria-street towards Westminster the pedestrian must often have noticed the cellar-like basement offices from which the light is so

much excluded by the heavy flanking balustrade to the pavement, which rises high in front. The upper part of this is now being taken down and in its place a lower iron railing is being erected, by which a great accession of light will be given to the basement. There can be no doubt of the great improvement effected by this change, both to the offices and to the character of the street. It is a relief from the ponderous character of the old balustrade, which was so unnecessary and depressing, and is an instance of the improvements in detail which are possible, as in so many other cases, and which can often do as much for the "tidying up" of London as larger schemes.

Signs. The successful hanging sign over the entrance to the premises of Messrs. Vickers in Westminster is an example of really artistic treatment in street signs, which not only call attention to their premises, but add attractiveness to the street. This well-designed sign, suspended from wrought-iron work, the prevailing colour of which is green and gold, is an example which other firms might follow with advantage. Good craftsmanship pays, and in such a locality the charm of so well-executed an embellishment does much to relieve the monotony of the street. We should much like to see many more such successful signs as this erected in London.

Birmingham Civic Society. Londoners might well feel envious of the ability which the Birmingham Civic Society possess in producing such an interesting and well-prepared monograph as the "Guide to Sutton Park," just issued. This little quarto pamphlet describes the beautiful and diversified park, some 2,500 acres in extent, which, with its moorland pools and woods, forms a happy recreation ground for the citizens of Birmingham. The pictorial map is well drawn and designed, and helps, with the photographic illustrations, to some realisation of the beauties which form so valuable a possession near to a great modern city. It would have been even better if local artists had been invited to help towards the pictorial record, for the photographs give little account, after all, of the real charms of the place. Such a publication as this shows what zeal and ability on the part of a Civic Society may do. We are told that the Roman way, "Ykenild-street," has continued unassisted by repairs or attention from man for nearly two thousand years.

Heights of Cottage Ceilings. The battle between the 8 ft. and the 8 ft. 6 in. ceiling has broken out again, and we should like to know how many of the most zealous supporters of the 8 ft. 6 in. ceiling could tell us, on entering a room, whether the ceiling was 8 ft. or 8 ft. 6 in. high; the result would in most cases be sheer guesswork. The average tall man can reach to a height of 7 ft. 6 in. with the tips of his fingers, and in these days, when so much is being sacrificed to economy, we consider that those who are building houses would do better to spend what money is available on frontage and area rather than on any height beyond 8 ft. The stock argument in favour of the higher ceiling is that the air space is greater, but the air space is equally enlarged by spending the same money on increasing the floor areas, and there is, in addition, more room to move about. Windows near the ceiling are ample guarantees of fresh air in an 8-ft. room. These remarks do not, of course, apply to rooms where drying racks are to be installed.

Little Baddow Church. The Royal Commission on Historical Monuments, in its new volume on Central and South-West Essex, has included an immense amount of information of antiquarian and historical interest. As showing how much the study of documents, charters, municipal records, etc., assist us in discovering facts about the monuments themselves, we have the recent instance of the remarkable discovery of a wall painting by the Rev. Jesse Berridge, through a reference in his churchwardens' accounts (date 1749), as follows:—"plaistering about the new door and pating out Saint Christifer," words which led him quite recently to discover in Little Baddow Church a fine fresco of the saint, probably of late fourteenth century date.

Tipton Church, Staffordshire. The peril that some of our oldest churches stand in by reason of proximity to mines is forcibly brought to notice by the deplorable condition of the ancient Norman church of St. John's, Tipton. The edifice has developed such serious dilapidations of its walls that no religious services have been carried out in it for the last nine years, much to the regret of the Vicar, the Rev. Edgar Burford, who is anxious to repair his parish church if he can obtain some pecuniary help. Condemned in 1913, the church no longer serves the very poor population of between three and four thousand souls, and there are no inhabitants sufficiently well off to help him. The south and north walls of the building exhibit enormous falls of the masonry, and it is not to be wondered at that it would be dangerous to enter the interior. The tower, built of very coarse stone of the early flat kind, shows indications of great antiquity, and its apparent solidity is enhanced by the embattlements on the top, which speak of great strength. There is some indication of Saxon work in an arch on the east side of the tower. Illustrations of the church are given on p. 156

(See p. 161.)

GENERAL NEWS.

Professional Announcement.

Mr. Alfred A. Ospalak, M.S.A., is removing to 25, Victoria-street, S.W.1, to where all communications should be addressed from the 1st inst. The telegraphic address will be "Gavelskill," and the telephone number as before, *i.e.*, Victoria 5970.

Professional Defence.

The minutes of the proceedings of the New Zealand Institute of Architects' annual meeting, held on February 15 last show that a resolution was passed calling upon the Institute to set up a Professional Defence Committee on the lines of the Society of Architects' Professional Defence Organisation.

Bulford Garrison Church.

A fete and bazaar will be held at Amesbury Abbey on Bank Holiday in aid of the Bulford Garrison Church building fund. The event, which is under distinguished patronage, will be opened at 2 o'clock by Lord Methuen.

British Industries Fair.

The prospectus of the British Industries Fair (Birmingham), 1923, has now been issued. The schedule of exhibits is very comprehensive of the hardware, metals, engineering and lighting trades. The Birmingham Section is recognised by H.M. Government as a national fair, and thus enjoys all the prestige of an official undertaking whilst retaining the control, as stated in the prospectus, "by business men for business men."

Famous Ruin in Danger.

The remains of the Roman gateway and guardroom at Colchester, known as the Balkerne Fort, and formerly named King Coel's Castle, are, in the opinion of local antiquarians, in danger owing to sewerage work being carried on in the neighbourhood, which, it is feared, may lead to the undermining and destruction of this famous ruin. The relic is one of the most important remains of the Roman occupation of Colchester, and is the only existing gateway with guard-house in Britain.

R.I.B.A. Registration Committee.

As stated in a portion of our last issue, the first meeting of the Registration Committee was held on Monday, July 24, at No. 9, Conduit-street, W.1. The following appointments were made: Mr. A. W. S. Cross (Vice-President); Chairman; Mr. George Hubbard (Vice-President) and Mr. C. B. Flockton, Vice-Chairmen; and Mr. Sydney Perks, Hon. Secretary. A sub-committee, consisting of Mr. A. W. S. Cross, Mr. George Hubbard, Mr. C. B. Flockton, Mr. Sydney Perks, Mr. W. Gillbee Scott, Mr. Herbert Shepherd, and Major Harry Barnes, M.P., was formed for the purpose of considering the various registration bills that have been promoted, interviewing representatives of other bodies, and submitting suggestions to the main committee.

Archibald Dawnay Scholarships, 1922.

In accordance with the terms of the will of the late Sir Archibald Dawnay, the Royal Institute of British Architects has awarded, for the first time, two scholarships, each of £50 per annum for two years, to Mr. E. U. Channon (Architectural Association) and Mr D. J. A. Ross (Robert Gordon's Technical College), Aberdeen; and one scholarship of £25 per annum for two years to Mr. C. S. White (Architectural Association). The scholarships are intended to foster the advanced study of construction and the improvement generally of constructional methods and materials and their influence on design.

The Bank of England, 1792–1820.

A special exhibition of the sketch models used by Sir John Soane, R.A., in the building of the Bank of England has been arranged by the Curator in the students' room on the ground floor of the Sir John Soane Museum, 13, Lincoln's Inn Fields. Among special features of the interiors of the bank are shown the Princes-street entrance vestibule, the open loggia to the waiting-room court, the accountants' hall, the Lothbury Court, the Bank Stock Office, and the Consols Office. There are, in addition, models and photographs of the Tivoli Corner and other parts of the exterior and interior. The Museum is open free throughout August on Tuesdays, Wednesdays, Thursdays, and Fridays, 10.30 a.m. to 5 p.m.

The Surveyors' Institution.

A party of over fifty members of the Northumberland and Durham Branch of the Surveyors' Institution and their friends, on July 29, on the invitation of the Newcastle and Gateshead Water Co., visited Cateleugh Waterworks, which include the largest reservoir in the country. The party included Mr. J. F. Clark, President of the Surveyors' Institution, and Chairman of the Northumberland and Durham Branch Committee; Mr. J. D. Wallis, Vice-President of the Institution; Mr. A. Goddard, C.B.E., Secretary of the Institution; Mr. W. J. Cochrane, Vice-Chairman of the Northumberland and Durham Branch Committee; Mr. W. Turpin, Hon. Secretary of the Northumberland and Durham Branch Committee; Alderman C. H. Sample, O.B.E., and Prof. A. Gilchrist, M.Sc. Officials of the Water Co. present were: Directors, Messrs. J. M. Clark and C. J. Potter; Mr. J. R. Coates, Secretary and General Manager; and Mr. Hardcastle, Engineer. The reservoir was reached by motor coach, and the party was conducted around the works.

Tipton Parish Church, South Side: Showing its Present Condition. (*See p.* 155.)

Tower of Tipton Parish Church.

(*See* p. 155.)

COMPETITION NEWS.

Greenock.

The successful architects in the Greenock War Memorial Competition are Messrs. Wright & Wylie, 212, Bath-street, Glasgow.

Southport.

In a recent limited competition for a new synagogue to seat 600, to be erected in Arnside-road, Southport, Messrs. Packer & Crampton, A.R.I.B.A., architects, Shaftesbury-buildings, Southport, were placed first, and have been instructed to proceed with the work at once.

Owen Jones and Mulready Prizes.

The awards in the competition for the Owen Jones and Mulready prizes are as follows:—

Architecture: Mr. Rex W. Wood, Norwich (Prize); Messrs. J. E. Connor (West Bromwich) and L. Ramsden (Leeds), Commended.

Mosaic: Medal, and Mulready Prize of £20—Miss C. H. A. Howard-Mercer (London); Commended: Miss C. M. Pargeter (Watford).

Woodwork and Cabinet Work: Prize—Mr. H. W. Keil (Guildford); Commended: Mr. A. Clegg (Manchester).

The designs submitted will be on exhibition at the Victoria and Albert Museum, South Kensington, from July 29 to September 17.

Chelsea.

For the Council of the Chelsea Hospital for Women.—Designs for nurses' home (100 bedrooms) to be erected in the hospital grounds. Names to be sent in on or before September 16. (See advertisement this week.)

Labour-Saving Bungalow.

The *Daily Mail* is offering £500 in prizes for designs for a labour-saving bungalow. Sending-in day, September 14. Further particulars from the Secretary, Bungalow Competition, 130, Fleet-street, E.C.

Other Competitions.

Other competitions still open include the following (the dates given are, first the sending-in date, and second the issue of *The Builder* in which full particulars were given): Ramsgate Improvement (August 10, June 16); *Chicago Tribune* Building (Nov. 1, July 14); Antwerp Lay-out (Sept. 29, July 14); Colombo Town Hall (Nov. 1, July 14); Southend School (Aug. 31, June 16).

CORRESPONDENCE.

Architectural Education.

SIR,—I understand another woman Associate has been added to the roll of the R.I.B.A. May I venture, through your columns, to offer to her my sincere congratulations on becoming a member of the Institute, and on her brilliant success in another quarter, and also a sincere hope that she will in time build up a successful practice?

But I am afraid that one more graceful swallow will not make a summer. The fates seem against the woman architect. Consider their numbers and position in relation to those who are members of other societies.

The R.I.B.A. was the first incorporated society to grant degrees or diplomas, yet so very few have attained diplomas or are in practice. Whereas in law, medicine, and in academical and other bodies, very many women (beginning at a much later date than 1898) have not only obtained degrees but they have done so with conspicuous ability, and many are now in responsible and lucrative positions. Can the same be said of women architects? I think not.

In my opinion the non-success of women is not through any inability on their part as architects; that is proved, to some extent, by their standing in the Institute. It is simply the building public don't want them.

And there is another point that should be considered. However well they may be qualified to build business premises and houses, in the first instance they would be dealing with men and committees, while in the second instance they would be dealing largely with women. Woman against woman, and their hackles would rise, to use a sporting simile. From a very long experience, I can say with absolute truth I have seldom found two women agree, or have the same ideas, on the many problems arising in preparing plans for a house. What one woman thinks is an admirable fitting up of, say, a butler's pantry or a scullery, another will remark bluntly, "I don't think much of your client's knowledge of housekeeping." And of course they may both be wrong. Again, the matter of taste—good Lord! why every woman has taste!

It may be argued that women go to women for clothes and hats. Yes, but it is men who design these evanescent creations.

In short it would seem woman won't have woman as architect.

THOS. E. COLLCUTT.

SIR,—I was very pleased to read the excellent article on architectural education contributed by Mr. T. E. Collcutt to your issue of the 28th ult. Although I am a firm believer in the ultimate success of the system of education now being administered in various schools of architecture throughout the kingdom, yet it is impossible to ignore the fact that some well-known architects are opposed to it and have openly expressed their preference for what one may describe—I trust not unfairly—as the antiquated haphazard method of office tuition. We must remember that in the tentative stages of its development almost any mode of teaching is likely to show certain defects. But when these defects are frankly formulated and openly discussed remedial measures can often be found. This being so, the prospect that, in the near future, a congress is to be held for the purpose of discussing the present position of architectural education in this country is welcome news.

ALFRED W. S. CROSS.

London, W.1.

Fees for Abandoned Housing Schemes.

SIR,—Having carefully considered G.H.M. No. 61, just issued after agreement with the R.I.B.A., and which is certainly an improvement on G.H.M. No. 52, may I draw attention to the question of fees? According to Para. 1, under the heading "Supplementary," no railway fares are allowed for journeys under 25 miles from the office, though why this distance is fixed no one will be able to understand. Also, the architect is expected to walk up to 3 miles or pay for his hire; why 3 miles? It is obvious to any architect practising in the smaller towns and having rural schemes that he is not considered, and that these terms have been agreed to by London men.

L. E. COLE.

Newmarket.

[*** G.H.M. No. 61 is given in full on p. 172.—ED.]

The English Tradition.

SIR,—It really looks as though the English tradition, so human, so native to our own character, would come into its own again. After years of subjection to foreign influences there is an awakening to the traditions of English architecture. It was the fashion thirty years ago to regard the streets of Bloomsbury, such as John-street, Gower-street, Lamb's Conduit-street, as the last word in dulness and depression, and the Adelphi was not much better, now we see how much of human, homely dignity there is contained in them. They are seen to represent for us a much safer and more recognisable quality than buildings in the French or other manner, and contain a much better precedent than these foreign and borrowed interpretations. In a letter to the *Morning Post* Sir Reginald Blomfield points out that people do not understand this French manner, and he appeals for the traditions of our own architecture. The new Regent-street that is growing up cannot be said to be characteristic of either English or any other architecture, but is to be regarded as the art of the commercial ideal. Without unity of design or regard for the general amenities of the street it asserts itself as a sort of shop-window art, full of show and ostentation, but without dignity or regard for the more native tradition, which is much better sustained in the earlier work of Nash.

"TRADITION."

"A Freedom of Sorts."

SIR,—It would be very great pleasure to take up the challenge of "Isis" were not his desire to "score" at all costs so palpable. The task of the opposition is always so simple, and the skill required is that of the housebreaker compared with that of the craftsman. "Isis" assumes apparently that having a free choice between the mediæval life and the hurly-burly of the twentieth century I have voluntarily chosen the latter, and he has built upon this quicksand a top-heavy structure, a scathing condemnation of my theme. The fact is, of course, that neither "Isis" nor myself have any choice in the matter, and we have perforce to live our lives to-day, and perhaps to-morrow, and make the best of it, whether we like it or not. Upon whether the fact is unfortunate for ourselves or for the twentieth century both "Isis" and myself have probably our own mixed opinions.

Personally I am more concerned with what is, and what may be, than with what has been. "The world as we find it" has to be the jumping-off point for each one of us, however tightly we may close our eyes and imagine otherwise. "Isis" is shocked at my referring to "struggling workers," and rather than offend their susceptibilities he would deny the struggle. He should come up to this mining district if he has any doubts upon the point, and he would see how far the working man is free to play with fancy. It is not my wish that it is so, but it is a fact within which we have perforce to carry on. I do not rejoice, as "Isis" seems to think, that the architect has to be the autocrat where once he was the comrade, but I don't intend to sit down and weep about it (unless the tears will wash away a blindness). However, it is not my wish to play for my average, and I will not dissect the letter too thoroughly.

My aim is to clear the air. On the one side I see the best modern work going up on certain lines which, I am convinced, are sound and progressive. On the other, I read reams of letters and articles which would have it that modern work is on entirely wrong lines, leading to nowhere but perdition.

If "Isis" and his band of brothers could be a little more specific they would help young students who are trying to collect their principles; I myself am barely out of that stage, and should be utterly confused did I not grip tight to my considered beliefs. It is not enough to say "This is wrong"; you must add, "but this other thing is right," and to make the balance "this other thing" must be as defined as the first.

I look for instances of completed buildings that embody the principles for which "Isis" works, or I long for some rough scribble sketches to illustrate his aims. These will discredit my beliefs much more than any amount of debating tricks.

By the way, I may as well acknowledge the "Bach and Beethoven" *faux pas*. My reference was culpably careless, though I think good nature would have gathered my meaning, which was that many of us prefer the classic construction and harmony of these great composers to the obscure discords of so-called modern music, though some of the greatest "modernists" still construct on the same lines which I maintain stand for all time, and are not relics of a passed age.

I hope I have to some extent chrystallised the points for which I stand, and I look to "Isis," having denied my points, to make his own clear.—Yours faithfully,

G. MAXWELL AYLWIN.

Nottingham.

A Proposed Whitley Council for the Building Professions.

SIR,—It behoves all of us, especially assistants, to consider our present state and future prospects and to use our brains and energies to ensure for ourselves and successors adequate recognition and payment for our share of the world's work.

The shortage of money available for new building works continues, and is likely to prevail for a considerable period. There appears to be an impasse in the matter of the registration of the profession. The low financial status of all grades of men intimately connected with the building industry is rapidly approaching the state of underpaid impotence that prevailed before the war. The sweated salaries that are offered and accepted eagerly are becoming notorious. Examples of the competition for these are known to all of us.

If we add to these few points the fact that the dwindling proportion of men who are able to commence practices on their own account amounts, at a liberal estimate, to about ½ per cent., we have good cause for apprehension.

There is no need to enlarge upon the costly and arduous training which a professional man must undergo to fit himself for his work. In view of all these considerations, can we, as a common-sense community, expect a high standard of architecture from a body of men labouring under such conditions? Can the professions expect sympathy or understanding from an enlightened and intelligent public if they cannot show that they are capable of organising and controlling and moulding their members into an organic and live force in the life of the nation? There appears to be one way, and only one way, to accomplish this, and that is for the several institutes, associations and assistants' unions to join forces and set up for the professional and technical workers in the building industry a constitution and policy based upon their several and varied needs. This Council would perform the duties of a National Whitley Council representative of the building professions in their public, private and industrial branches.

"LIC. R.I.B.A."

PRIZE DISTRIBUTION.

The annual distribution of prizes and exhibition of students' work in connection with the Architectural Association School of Architecture took place at Nos. 34 and 35, Bedford-square, W.C.1, on Thursday last week. Mr. Stanley Hamp, President, was in the chair, and supporting him on the platform were Lady Banister Fletcher, Mrs. Hamp, Sir Reginald Blomfield, R.A., F.R.I.B.A., Major Harry Barnes, M.P., F.R.I.B.A., Mr. F. R. Yerbury, Secretary to the Association, Mr. Howard Robertson, Principal, and others.

The Chairman said the occasion marked the end of a very strenuous twelve months of students' work, and he was quite sure that when they saw the exhibits on view in the studios they would agree that the students deserved the highest congratulations. Referring to the Holloway Scholarship, he said they had that through the generosity of Sir Henry Holloway, who had been a great supporter of the Association. The scholarship was a very valuable one and was tenable for two years. There was a provision that the winner must spend at least six months in a builder's yard, and most of them would realise what that would be to anybody who was to undertake the practise of architecture as a career. It was a privilege for him to announce that a new scholarship would be available next year, viz., the Bernard Webb Scholarship, which had been made possible through the munificence of a very old friend of the school in the person of Mr. Bernard Webb. The scholarship was in connection with the British School at Rome and was to the value of £300. It would be awarded every two years, the sum being such that it would permit a student to spend at least twelve months at the British School in Rome. After mentioning other scholarships Mr. Hamp said he did so because he wanted to emphasise their enormous interest and value in the education of the students, and it was to be hoped that there would be keen competition, not only for those scholarships but for others which were available in the profession. Referring to the criticism that was sometimes passed upon the training given at the school, he said it was a criticism due to lack of knowledge of what they did there. It was said that students, leaving the school after three years' training, did not make very sound architects' assistants. He spoke for the masters when he said they were quite conscious of the fact that students leaving after three years were not fully trained, and it was hoped that all students would remain and take the fourth and fifth years which were a climax to the training of the previous years, and were very important to the success of the course as a whole. By remaining for the additional years, students would be equipped with the knowledge and training that would make it quite impossible for anybody to voice the criticism to which he referred. Mr. Hamp paid a tribute to the services of the school staff, and remarked that one peculiarity which the school possessed over others was the fact that most of the teachers were practising architects. The Council had always thought, and still thought, that a master should be a practising architect, but there was the disadvantage that as their practices grew so the school lost the services of those very efficient men. Unfortunately that was the cause this year of their losing the valuable services of Messrs. Duncan, G. Hake and G. G. Clarke. The President also referred in eulogistic terms to the Director, Mr. Robert Atkinson, and said that during his illness his duties were most efficiently carried out by Mr. Howard Robertson. Praise was also due to the indefatigable Secretary, Mr. Yerbury.

Sir Reginald Blomfield said it was some time since he had the pleasure of visiting the Architectural Association School, and he would like to congratulate them on the complete recovery of the School since the war and on the admirable work they were now doing. He had been told, though he hardly believed it, that there was a movement on foot to abolish the school system, and revert to the old system of articled pupils. It was now over a quarter of a century since some of them (and he might mention among them Mr. Newton, Mr. Lethaby, Mr. Ricardo, and Sir Aston Webb) came to the conclusion that the pupilage system, excellent though it might have been in some cases, existed more in the interests of the master than of the pupil, and that Dickens' caricature of Mr. Pecksniff's office was not wholly wide of the mark. The school system, already in existence, assumed the place in their training that it had occupied ever since. Instead of taking pupils themselves they sent them to the great architectural schools—the Architectural Association, the London University, Liverpool, and Manchester—because they were convinced that the school system, with its competition, the contact of student with student, and the fine spirit of emulation which it evoked, was, on the whole, the best method of training available

Yet they must not imagine that it was perfect. There were certain faults which he would venture to point out to them, as the result of his experience. In the first place, school training was necessarily academical, in the sense that it inevitably led to a more or less stereotyped manner, and in the sense that it was out of relation to practice. In the old pupilage system, pupils in good offices could, at any rate, learn how buildings were actually put together, the details of construction and fittings, for example, that were requisite in a ten-bedroom house, or in a village school; They learnt how to write a specification, how to make working drawings that could be carried out by the workmen, and the ordinary practice of architecture in actual operation. It was difficult to provide that to the same extent in a school, though an intelligent and trained student would very soon pick it up in a competent office. The tendency to stereotype design could hardly be avoided in a school; they must proceed by some sort of definite grammar, and provided that the manner in use was recognised as nothing more than part of the machinery of training no great harm was done. A more serious fault was the tendency to mistake the means for the end. The whole of their training, their competitions, their exhibitions of drawings, all their studies, should be subordinated to the one aim of qualifying themselves as masters of their most difficult art. He would ask them to consider how far they were helped along the thorny path by the slashing draughtsmanship and the brilliant water-colour paintings which constituted the bulk of their architectural exhibitions, and to which, he feared, many students devoted most of their time. Architecture was, after all, the art of building, the art of planning, of construction, of ordering the use of materials, so that out of them were evolved forms that appealed by their beauty and dignity to their æsthetic sense. What had the most brilliant water-colour painting to do with that? Just nothing at all. Mr. Burgess used to say of Mr. Street that it was a pity he could not build his cross-hatching; and he would ask them to consider the real relationship of draughtsmanship to architecture, and not to be led away by its insidious seductions. It might be the short cut to reputation, and reputation was the short cut to success—of a sort; but it was not the sort that an artist should keep before him as his ideal. The success that he should aim at was the mastery of his art.

There was another criticism he would make. He did not find that young men studied old work with anything like the persistence and enthusiasm with which they used to study it forty years ago. If he might speak of himself, he had always been a keen cricketer, but for five years after his articles he gave up cricket entirely, and spent all his holiday time riding about on a bicycle, sketching and measuring, and studying old work. He recovered his cricket since, but he had never given up his sketching and measuring. He was not referring to the old habit of cramming one's sketch-book with details for reproduction, but to the study and analysis of fine architecture of the past. It was in that way that they would learn their technique, that they would acquire a sense of scale, and the power of visualising their own designs. It was only in that way that they could work with a full knowledge of the resources of their art, their mind would not work in a vacuum; at any rate, "knowledge of antiquity," as Mr. Shaw used to say, would protect them from the deplorable lapses that distressed them in their daily walks. Modern design, whether it was borrowed from their colleagues in France or America, was a very poor substitute for the solid background of knowledge. If they studied the architecture of the past they would find that a great high road ran through all its developments; and before they left that road and struck out into the wilderness they must be sure that they knew quite well what they were doing and what they were giving up.

Lastly, he would say, "do not attempt too much, and thoroughly master what you do attempt." The modern practice of architecture was so complicated that it was quite impossible to be an expert in all its branches. They could not master the whole range of applied science, and it was wiser to limit themselves, and call to their aid and collaboration experts in electricity, in steel and iron, or in reinforced concrete construction. The rôle of an architect was not that of an engineer. In both cases it was based on construction, but the architect's real function began where that of the engineer left off; he should let his mind play freely on the practical data of plan and structural requirements, in order that he might translate them into forms of æsthetic value. He must be ever on the alert watching for the opportunities of his problem; and that was why architecture was the greatest and most exacting of the arts. The sculptor and the painter played in a very moving manner, it was true, on their individual instruments; the architect had to compose for a great orchestra, and to conduct the concert as well. That was the ideal to hold before themselves in all their studies, and they would have their reward in the joy of mastery of their art, in that "ἐνέργεια" of Aristotle, that full realisation of all that was best in them, which should be the mainspring of their conduct of life.

Lady Banister Fletcher, in moving a vote of thanks to Sir Reginald Blomfield, said to her it seemed that the spirit which permeated Sir Reginald's address was exactly the same spirit which enabled him to penetrate the French architectural character in his delightful book, "The History of French Architecture." When the Renaissance movement spread it became evident that design must henceforth emanate from a definite architect, and no longer be a national growth. If they had a definite architect the personality of that architect must necessarily emerge, and it became necessary that they should have a care in the training of architects. That was why schools like the Architectural Association School came into being.

CLOISTERED COUR

A GALLERY OF WESTERN ART, CITY OF TOKIO, J

ISTERED COURTYARD.

F TOKIO, JAPAN. MR. FRANK BRANGWYN, R.A., Architect.

Major Barnes, F.R.I.B.A., M.P., in seconding the vote of thanks, said competition was the very spirit of architecture, and he could not but feel that the association of men and women in a school of that kind must be, in the long run, in the interests of the profession.

Mrs. Hamp then presented the awards, as follows:—

Public School Entrance Scholarship (value £63): Mr. J. V. Hamilton (Charterhouse).

Open Entrance Scholarship (value £63): Not awarded.

A. A. Essay Prize, Open to all Students (value £10 10s.): Not awarded.

First Year Course: 1st Prize, "Howard Colls" Travelling Studentship (value £15 15s.): Mr. R. C. Erith; 2nd prize, books (value £5 5s.): Mr. D. A. John; art subjects (value £3 3s.): Mr. M. Tha Tun; general progress, books (value £2 2s): Mr. D. H. Beaty-Pownall; scholarship tenable for one year in second year course (value £63): Messrs. E. T. Nash and W. E. Palmer.

Second Year Course: 1st prize, A.A. Travelling Studentship (value £26 5s.): Mr. W. Lewis; 2nd prize, books (value £10 10s.): Mr. F. E. Bennett; art subjects, books (value £5 5s.): Mr. F. E. Bennett; general progress, books (value £3 3s.): Mr. F. E. Green; scholarship tenable for one year in third year course (value £63): Mr. J. W. Wood.

Third Year Course—Holloway Scholarship value £150): Hon. H. A. Pakington; 1st prize, "Henry Florence" Travelling Studentship (value £50): Mr. R. E. Enthoven: 2nd prize, books (value £21): Mr. H. Braddock; 3rd prize, books (value £15 15s.): Miss J. E. Townsend; general progress, books (value £5 5s.): Mr. G. Whittaker; "Alec Stanhope Forbes" prize for best colour work during year, books (value £5): Mr. R. E. Enthoven.

Graduate Courses.

Fourth and Fifth Year—R.I.B.A. "Henry Jarvis" Scholarship (£50): Mr. J. C. Shepherd; Scholarship from fourth year for one year in fifth year course (value £31 10s.): Mr. J. C. Shepherd.

Design: 1st prize (value £6 6s.): Miss L. M. Chambers; 2nd prize (value £4 4s.): Miss E. G. Cooke.

Decoration: 1st prize (value £6 6s.): Miss E. G Cooke; 2nd prize (value £4 4s.): Miss I. M. Chambers.

Town Planning: 1st prize (value £6 6s.): Miss E. G. Cooke; 2nd prize: (value £4 4s.): Mr. E. Sheppard.

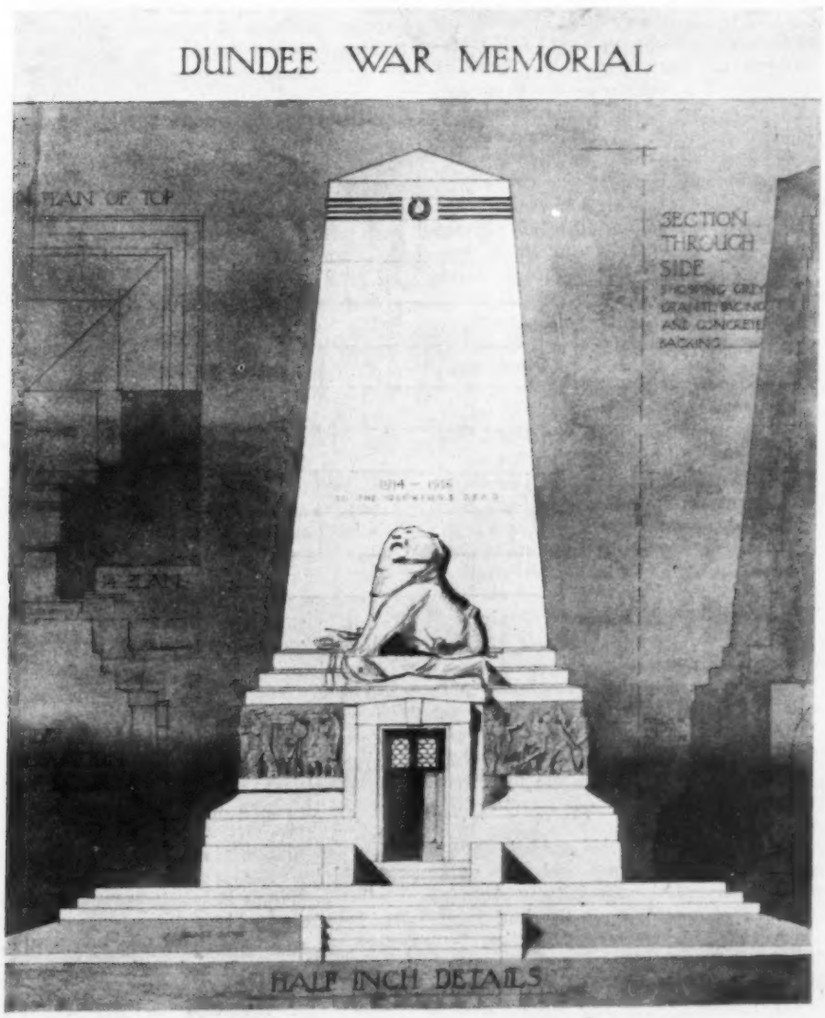
Construction—1st prize (value £6 6s.): Miss E. G. Cooke; 2nd prize (value £4 4s.): Mr. J. C. Shepherd.

Architectural Association Diploma on satisfactory completion of five year course: Miss E. G. Cooke and Mr. W. A. Devereux.

Medal presented annually by the Société des Architects Diplômes par le Gouvernement to the best diploma student of the year: Miss E. G. Cooke.

Mr. Howard Robertson announced that the first and second prizes in the Archibald Dawnay Scholarship, awarded by the R.I.B.A., had been won by students of the School as follows:—1, E. W. Channon, £50 for two years; 2, C. S. White, £25 for two years.

A vote of thanks to Mrs. Hamp was proposed by the Hon. H. A. Pakington, Mrs. Hamp suitably responding.



Dundee War Memorial Competition. Design submitted by Mr. W. J. Durnford.

Examination Results.

Twenty-six candidates passed the recent Intermediate Examination of the Royal Institute of British Architects. The names of the successful candidates, placed in order of merit, are as follows:—L. W. T. White, A. M. McKewan, R. O. Vine, A. V. Montagu, H. J. Coates, C. E. M. Fillmore, S. C. McManus, C. C. Gray, A. W. Hodges, G. Wilde, D. Cuthbertson, E. G. Felgate, W. H. Ford, J. Byers, G. C. P. Cough, C. T. Prangnell, G. J. Bragg, B. Cowser, F. G. Geeson, R. T. Green, G. R. Barnsley, R. J. Carter, A. W. Ecclestone, N. R. England, J. C. Richard, K. S. Tayler. Eighty-five candidates failed to satisfy the examiners and have been relegated to their studies.

The following candidates passed the Final and Special examinations: — W. Baillie, W. A. C. Ball, B. Butler, F. N. Gilder, E. L. Gunston, M. H. Hofler, E. K. D. Hughes, A. G. Jenson, G. W. M. Leverkus, W. B. T. Newham, D. S. Petrovitch, A. S. Reid, F. A. Richards, W. Ryle, F. J. Sawyer, H. D. Sugden, A. E. Williams. W. J. Allcorn and E. G. Hines passed the examination in Part I only (design).

The Ashpitel Prize (£10 in books) and a mark of distinction for his thesis have been awarded to Mr. A. S. Reid of Aberdeen. Fourteen candidates failed to satisfy the examiners.

The following candidates passed the Special War Examination:—Messrs. C. W. Allen, L. M. Austin, G. H. Backway, W. F. Ball, H. C. Bankart, C. D. Barnard, L. J. Bathurst, S. L. G. Beaufoy, C. N. Beeston, W. Beeston, J. W. Binge, F. L. Bird, T. Blakeley, A. V. Booker, H. E. Box, J. Bramwell, R. Briars, J. S. Broadbent, C. S. Brothers, W. Brown, C. J. A. K. Buysman, W. H. Caley, G. B. Carter, W. Cartwright, A. M. Chisholm, J. Clack, E. H. Cornes, G. H. Crickmay, J. H. Crowther (Junr.), R. S. de Burgh, A. R. Dent, C. G. Dixon, F. G. Eastwood, F. W. Eggins, J. Ellis, A. C. Fare, A. V. Farrier, A. C. Flitcroft, A. T. Flutter, L. R. Foreman, C. W. Francis, B. Fraser, E. Fryer, G. C. Gadd, C. E. George, J. S. Glass, L. R. Gower, J. Gray, H. J. Hall, L. W. Hall, M. A. Hall, J. F. Hampton, P. Hickey, W. F. C. Holden, J. Hopwood, L. C. Howitt, G. E. Hubbard, S. D. Igglesden, H. E. Jarvis, L. John, W. A. Johnson, T. E. Jones, L. H. Kemp, C. Kendall, C. W. Kennedy, H. C. Killender, G. E. King, K. Kinna, S. C. Kirby, A. S. Knott, F. H. Lambert, G. V. Lidbury, R. A. H. Livett, H. G. Lonsdale, D. A. Lumsden, J. R. A. McDonald, R. S. S. Mackay, R. M. McNaught, A. McWilliam, B. G. L. Mansergh, J. G. Marr, C. W. Milburn, J. S. Milner, W. S. Minty, S. G. Monk, H. L. Moody, F. A. Moore, A. T. Newsum, C. Noble, E. J. Nutt, E. D. O'Connor, E. C. R. Page, K. Palmer, J. R. Piggott, C. W. Pike, H. W. Pritchard, G. G. Quarmby, D. C. Rae, A. Rankine, J. F. Rees, H. G. Riley, W. J. Rogers, D. J. A. Ross, H. A. Scott, J. C. Shepherd, G. W. Silk, E. H. Skipper, L. E. Skipwith, L. S. Slaughter, W. L. Starling, C. G. Stillman, H. J. Stribling, S. H. Suthers, C. P. Tanner, W. L. Taylor, W. R. Templar, B. H. Toms, F. E. Towndrow, R. J. Troup, W. L. Vinycomb, H. Wessen, G. Whittaker, H. C. Wilkinson, W. P. W. Williams, S. J. Willmott, J. W. G. Wilson, M. L. Winslade, C. W. Yates, J. R. Young, T. Yoxall. Eighty-five candidates failed to satisfy the examiners.

THE ACOUSTICS OF COUNCIL CHAMBERS: WITH REFERENCE TO THE COUNTY HALL.

BY HOPE BAGENAL

(Lecturer in Acoustics at the Architectural Association Schools).

THE discussion on the council chamber of the new London County Hall has revealed not only popular ignorance of the acoustic data available but also the difficulty for the architect of applying special knowledge in the case of competition designing.

What are the acoustic requirements for large council chambers? What practical examples have we to draw from? What buildings of this class have been treated acoustically in America? And how can acoustic theory be applied to design before the money begins to be spent on actual building?

The requirements in order of their importance are as follows: First, members of an English assembly must be able to make themselves heard from every member's seat in the hall, because members are permitted to address the house from their seats instead of from a centrally-placed rostrum. Second, members of the Press must be able to hear every speaker with a good average loudness in order to fulfil their function of reporting speeches and informing the public. Third, that section of the public present at a debate must be able to hear as well as possible after the first two requirements have been satisfied. How can these requirements be met? For the first, there is some confusion of thought in the English use of the semicircular seating plan. The semicircular form has an acoustic value *only when a rostrum position is used for every member addressing the house.* The Chamber of Deputies in Paris, the Reichstag in Berlin, the new hall of the Italian Parliament, all of great height and having long reverberations, are acoustically bearable only because a central rostrum position is used for speaking. That position gives a speaker a natural direction for his voice which is very important in a large hall where the turning of the head causes syllables to be lost. But without a rostrum the relative position of speaker and audience is always changing, and the only value of a curved plan is to ensure a minimum of listeners at the back of any speaker. But this depends also on the depth of the seating. The front seats should be as far from the centre of the curve as possible. The disadvantage of having an inevitable minimum of seats behind a speaker is that he is at a loss where to direct his voice, and this is especially noticeable in a new hall where speakers have not quite found their bearings. How should this be met by the designer? Obviously by making a reflecting wall or screen surface to which all front-bench speakers, addressing the president in the ordinary way, could direct their voice. A good position for such a reflector would be to right and left of the chair. A speaker, moreover, in any position, in order to be heard by listeners behind his back, requires to reinforce the direct sound from his mouth with an additional reflected sound from a hard surface. In addition, then, to a reflecting wall or screen for front-bench speakers, a reflecting surface common to every seat in the house is of great importance; and this reflecting surface is best found in a hard, smooth ceiling. The ceiling, however, should not be higher than 40 feet or the length of the reflected sound-path will be greatly in excess of the length of the direct sound path and redundancy, and in extreme cases echoes will occur. This particular cause of redundancy is mentioned by Guadet in Vol. II of "Elements and Theory." But a monumental height is usually required for this class of auditorium and the ceiling above 50 feet then becomes a positive danger. The architect of the County Hall has, however, by a special treatment, eliminated his ceiling as a reflector in order to guard against redundancy from this cause. He has also eliminated any echoes that might arise from long reflected paths across from gallery to gallery by means of padding the backs of the gallery walls. A practical warning against high ceilings is the case of Sir Charles Barry's House of Commons. The Commons, after the burning of the old Palace of Westminister in 1834, were accommodated in a temporary wooden structure having a low ceiling which has been called the best legislative chamber for sound ever occupied by an English deliberative assembly. Barry's houses suffered by comparison. The ceiling of the Commons was lowered, that of the Lords remains as originally designed. The House of Commons is now moderately satisfactory, the Lords notoriously bad.

But the root cause of redundancy, and indistinctness in any auditorium is the ordinary reverberation of the whole hall. By Sabine's Law, reverberation varies directly with the air volume enclosed by the hall, so that the higher the building and the deeper the galleries the larger will be the volume of the longer the reverberation (Harvard experiments). Reverberation in practice is the length of time a short sound, such as a syllable in speech or a piano note, takes to die away in a room after the source has ceased, and can be measured in seconds. A speaker utters approximately from three to five syllables in a second, so that a reverberation of two seconds in a hall must mean that from six to ten syllables are heard coincidentally.

The reverberation varies inversely with the amount of sound-absorbing material introduced into the room (Harvard experiments); that is, the more absorbents introduced into a room the shorter the reverberation for a given volume. At the County Hall the architect has restricted his volume by refusing to have a dome and by keeping his galleries shallow. Also several thousand units of sound-absorbing material are provided by means of the padded walls to the galleries, the carpet and the upholstered seats, and the specially treated ceiling. But the volume of the hall is still a large one, and the reverberation is in consequence something over two seconds, causing indistinctness when a member speaks quickly. A further reduction of reverberation by means of added absorbing material would considerably improve the hearing. But the position of the absorbing material is very important. Useful reflecting surfaces near the source of sound should be kept bare, and the absorbing material be placed on surfaces at a distance. An example of a council chamber carefully treated for acoustics is the case of the Rhode Island House of Representatives, designed by McKim, Mead and White, and analysed acoustically by Professor Sabine. The hall has marble stylobate walls for a third of the height, above which are three-quarter engaged columns against a recessed wall. The stylobate walls surrounding members' seats are left hard and bare, the space between the columns above is padded and covered with tapestry in order to reduce the reverberation and prevent long reflected paths; the ceiling is not used as a reflector, but is deeply coffered to diffuse the sound and prevent echoes; the main reflecting surfaces to reinforce the sound behind a speaker's back are the stylobate walls.

The requirements of thick carpets in a council chamber to muffle the tread of members moving out and in, and of silently closing doors to the chamber itself, are most important, and have been carefully carried out at the County Hall with excellent effect. In spite of difficulties, audibility on the floor of the council chamber is not "bad" for so large a hall, and can easily be improved to "good."

When we consider the second requirement in order of importance, however, the acoustic position of members of the Press, it is easy to understand why an auditorium, better in many respects than the average, has attracted so much criticism. A member speaking slowly and not loudly can be heard distinctly everywhere in the house except from the front seats of the press gallery. Now, members of the Press cannot move about to advantageous positions; they should therefore be located on the floor of the house in a mean position for good hearing, with a door of their own giving rapid access to the lobbies. At the Reichstag in Berlin the reporters' tables are on the floor of the house and in front of the president. The reporter who wants to ask a member a question in the lobby after a speech should be able to dissociate himself from the writing tables rapidly and easily without disturbing his colleagues or causing noise. In a loftily situated gallery members of the Press are too far from the lobbies, and, as in the case of the County Hall, a reporter can too often only leave the upper rows by crossing over the backs of his less fortunate neighbours in the front, in turn, causing them to miss every word spoken meanwhile. In the House of Lords, hearing in the Press Gallery is so bad that only by the collaboration of a party of reporters contributing items to a common stock is it possible to inform the British public of a debate.

Public galleries should, if possible, form part of the main cell of the auditorium, as in the House of Commons. In cases where they open into the auditorium the openings should be wide and the recess of the galleries as shallow as possible. A deep gallery will not only add to the volume and therefore to the reverberation but will also provide long reflected paths of sound.

From these considerations it is obvious that some principles of design emerge. Thus, if, by means of suitably placed surfaces, we can add one or two reflected sounds to the direct sound, reaching every

position of a member, we shall secure sufficient loudness behind the backs of speakers. If the volume of the building is kept down, the less will be the reverberation requiring to be absorbed, and the more easily shall we ensure distinctness. Sound paths can be drawn out like light paths, and the prolonging of a sound by means of long reflected paths for more than one-fifteenth of a second will cause redundancy; for more than one-eighth of a second, an echo. The data I have referred to are well known to architects in America and are constantly used in the States for all kinds of auditoria. The formula for Sabine's Law of Reverberation and the percentages of absorption for the ordinary lining and building materials can be found in the last edition of "Kidder and Nolan" in "Specification 1921," in Hool and Johnson's "Building Construction," or more fully in Sabine's "Collected Papers on Acoustics," Harvard Univ. Press. Research in England on the subject of acoustics, as suggested in *The Times*, is highly desirable so long as we do not cover old ground. Absorption values for three-ply wood of varying thickness and for various English flooring and upholstering materials could be usefully ascertained at the National Physical Laboratory. But the acoustic design of large auditoria will inevitably modify the accepted notions of the dignified interior, and the problem for the architect will be how far building committees will consent to modification of this sort for their own benefit in the matter of good hearing.

New Pictures at the National Gallery.

During the last few weeks the collection at the National Gallery has received several valuable additions. The most recent is a gift from Mr. Charles Clarke of a Madonna with St. Catherine and St. Pelagia, by Quinten Massys. A picture of the Trinity with Angels has the place of honour in the first French Room (No. 20).

Corner in Lechlade Churchyard.
From a Sketch by Mr. Reginald Hallward.

HEADSTONES AND TOMBS.

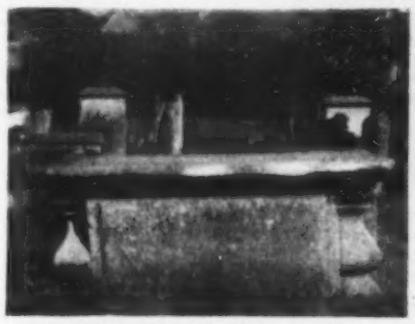
BY REGINALD HALLWARD.

One escapes from the highways of life, out of its stress and turmoil, when entering the churchyard or cemetery, the very quietude and withdrawness of which creates a mood of contemplation and brings new thoughts to the mind. In early Christian times burial in churches was prohibited, then gradually permission was granted to nobles and prelates to be buried within the church or cloisters. The lovely canopied shrines, seen in our cathedrals and churches, were the culmination of the tomb, which gradually gave place to a more upholstered alternative, and to the many unsightly tombs which disfigure Westminster Abbey. This evolution of the tomb marks the varying temper of civilisation at different periods. The ancient piety of mediæval England sustained a sense of dependence on the unknown and its work is penetrated by this feeling. Since life has found its anchorage in temporal things, "the commercial ideal" having so much replaced religion, the tomb and headstone have ceased to interpret much elsethan this counting-house spirit.

The cemetery, which means "the sleeping place," is famous through such examples as that of Père la Chaise at Paris, and the Campo Santo of Pisa—the latter forming the model for so many Italian cemeteries. The consideration of preserving headstones and tombs in the open is one of difficulty, and we need but to wander through the churchyards of the countryside to observe how often neglect is hastening their decay. Dependent on the affection and piety of the family for their preservation, the descendants are in many cases scattered, the associations severed which would have secured their continuous protection; and the general upkeep of a churchyard does not, as a rule, enable the incumbent to include such repairs. So we see the massive stone tomb, its cap-stone all awry and sad fissures in its sides, eaten into by frost and surmounted by ivy. Yet, as between this and any smug restoration, the former state is to be preferred. Old age has also its beauty, which is preferable to the paint-and-powder of the restorer. The recent agitation for the removal of ivy at Oxford and elsewhere was governed by a very restricted outlook and has on the whole done harm rather than good. In fact, it is but another instance of that prevailing tendency to live wholly in the present, so sure are we of progress and our own sufficiency. The ivy also has its place I believe in the "ivy-mantled tower."

Among the ancient tombs and headstones in the beautiful churchyard of a noble church, there is one, a tomb—one of those architectural tombs of the early eighteenth century—that is enshrined in human associations that do no violation to its purpose though perhaps adding to the poignancy of feeling that they set up in the mind. Standing not far from the ancient porch, near to the vestry door, it has formed for years and years the gathering place for the worthies of the village, and for the choir as it congregated before and after service. Yielding from its convenient height a suitable resting-place, it has been leaned against for many, many years, wearing deep depressions along the face of its projecting covering stone. I do not know how it will appear to others, yet to me this defacement of the surface seems to lend no harm, but links the present with the past, and is a record of length of time and custom which spreads a gentleness over human things, relating life with death, to its rest rather than to its terror, to the unknown from which it springs rather than with its end.

The headstone with its brief witness and record of life is a form of memorial in which we are all interested, and the number of such memorial stones makes it particularly desirable that they should be of suitable and becoming character, nor do violence to the thoughts and feeling which such memorials suggest. A feature of modern headstones is their often too large size, which is not to the advantage either of their proportions or character. The eighteenth century had a truer feeling about scale, and, taking the average, they are more than a foot shorter in height than modern headstones, which often look thin and attenuated. The stone also was worked with much more capacity as to its



Tomb in Lechlade Churchyard.

qualities by men who were better craftsmen. These eighteenth-century headstones are the best we know. Seldom over-accentuated by any personal ostentation, they take a likeness, and include a unity in variety, which relates them to each other, being produced within a tradition which consolidated their aims. The average product at that time is seen to emerge in a beauty which is not now the case. To enter into the cause of this would take us farther than any consideration of craft methods, and our concern is chiefly with the kind of inspiration over life, whether its freedom to beauty is kept open or shut out. It is certainly not a money question; we cannot restore a better craftsmanship to the headstone or to anything else by such means. At present in most cases the headstone is a commercial product seldom touched by tradition or feeling, and in the case where the architect or designer supplies a good design it is seldom that the mason's work is free enough from rigidity and mechanical finish to interpret it, nor will he use the stone so as to make it expressive of its particular qualities. If, however, we could get the size of the ordinary headstone reduced, taking as our model the average of the eighteenth century, it would be a definite gain. In the return to the raised grass mound, instead of the ugly stone edging between head and footstone, there would also lie improvement. The squandering of material might well be more limited until we have more to express, for it is merely expense for nothing.

There is one form of headstone from the Victorian period of peculiar horror, known as the "Gothic"; it about equals in its sensibility to beauty the Oxford frame. I recall on one occasion a monumental mason telling me that it was much in demand, and this difficulty of use and custom in ugliness makes it very difficult to intervene towards a better thing. It would seem as if we have to go through a period of sheer negation or state of purgatory before beauty can emerge again. It is a characteristic and very remarkable feature of many of our war memorials and not intended as a criticism that they reveal this blank, inarticulate quality, the significance of which lies not in any eloquence or passion of suggestion and emotion that they contain, but in the blind negation and speechlessness of their forms. They have nothing to say, but the feelings of the people stirred to their depths by the war give out their own heat and invest the symbol with what is not in it but in themselves. It may be this is a necessary stage, and preferable to the kind of subject matter we are used to where our memorials are concerned; may it not even be the case that they hardly offer much scope and that art when it radiates through the people again will find other inspiration for its achievements?

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ILLUSTRATIONS.

A Gallery of Western Art, Tokio, Japan.

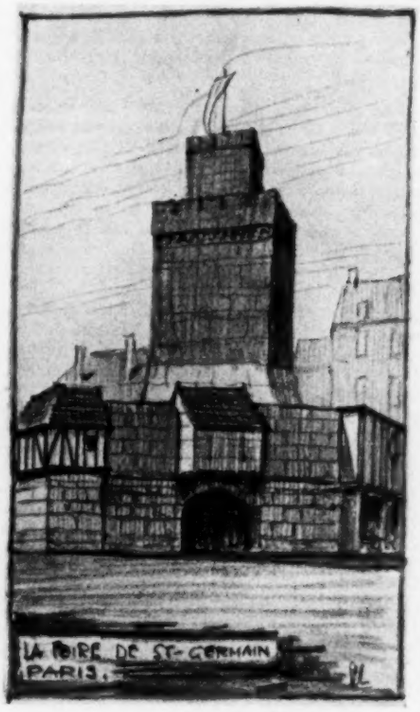
The Gallery of Western Art at Tokio has been designed by Mr. Frank Brangwyn, R.A., and is the gift to Japan of Mr. K. Matsaka, of Kobe. The building is simple, almost severe, yet with a fine sense of proportion and dignity. The architecture is in the Western spirit. The structure is built of Japanese brickwork, devoid of unnecessary ornament. The roofs are covered with Japanese pipe tiles, and the decoration of the exterior is confined to mural decorations in simple brick patternings with mosaic in the spandrels. The building is set in terraced walks enclosed by dwarf walls. The site overlooks the harbour, and the sacred mountain of Fugi, and the building has been provided with end loggias The grounds contain some fine trees, which have been preserved and form a part of the lay-out. The site was presented to the City of Tokio by Marquis Matsaka, the father of the donor of the Gallery. The galleries are lighted from the top, and the lighting can be controlled as required. Features are made in front of the side entrance of a large pool of still water which reflects the varying colours of the snow-clad sacred mountain of Fugi, and of the cloistered courtyard of the main building by the display of sculpture on the cool arcades, whilst a fountain in the centre adds to the charm. This fountain is in buff and blue ceramics. At the rear of the main block is the annexe gallery, for the display of furniture and applied arts. This building also forms the background to an enclosed court, where there is a sunk garden in characteristic Japanese style. In the great gallery, approached by the vestibule, the ceiling is richly coloured in blue and gold mosaic above grey walls and teak roof timbers; the joinery and doors are also in teak. Sculptured groups by Bistolfi will fill the corners of the vestibule in front of the angle-splayed piers. The completed scheme will include a guest house and a library for the fine arts. These are to be built adjoining the Art Gallery buildings. All the scheme is designed by Mr. Brangwyn, including the decorations, furniture and fittings. Our reproductions are made from Mr. Brangwyn's own drawings.

Bengal Council Chamber Competition.

We illustrate this week the design submitted by Messrs. Edwin T. Hall, F.R.I.B.A., and E. Stanley Hall, M.A., F.R.I.B.A., of 54, Bedford-square, W.C.1, in the recent Bengal Council Chamber Competition. It will be noticed that the whole of the rooms are on one floor, which was thought to be the best arrangement for a Council Chamber. The first premiated design, by Mr. John Greaves, was illustrated in our issue for January 27 last.

LA FAIRE DE SAINT GERMAIN.

An interesting example of co-operation between civic authorities and architects took place recently in Paris. The Mayor and Municipal Council of the VIth Arrondissement decided to revive the ancient fair which was held in mediæval times on the place in front of St. Sulpice during the month of May. A committee was formed and Monsieur Jules Godefroy, who has his office in the quartier, was invited to assist in the capacity of honorary architect of the decorations: the three essentials being that the scheme must not interfere with any permanent monument, that it must be inexpensive, and that it should reproduce or represent mediæval buildings. A considerable number of the inhabitants became interested in the scheme and asked that booths, &c., should be provided where their assistants—in the costume of the period—could sell various old things.



From a Sketch by LIEUT.-COL. H. P. CART DE LAFONTAINE, A.R.I.B.A.

This all took time, and finally, when the scheme was sketched out, only about a week remained before the date of the opening of the fair.

But the architectural students of the Ecole des Beaux Arts, under M. Godefroy's direction, worked with a will and the painted canvas walls, with their rubble masonry and half-timber work, were completed just in time. Passers-by were surprised one morning to find, in the place of the Fontaine des Innocents, a mediæval tower with battlements, flags, and banners, surrounded by a motley collection of mediæval shops and booths, partly seen through gaps in the canvas screen or through the "gate house" at one corner of this enclosure.

The fair was a huge success, and it was reported that 10,000 people paid their two francs and passed through the turnstiles of the "gatehouse" on the first day. When we visited the fair buxom wenches, in curious garments and quaint headdresses, were doing a great trade in curios of more than doubtful authenticity. At one stall extremes met, as a party of American girl-students, with a male attendant or two, in the costume of the fifteenth century were doing a great business in the latest thing in American "candies." The whole thing was a delightful piece of make-believe which the visitors thoroughly enjoyed.

EXHIBITION NOTES.

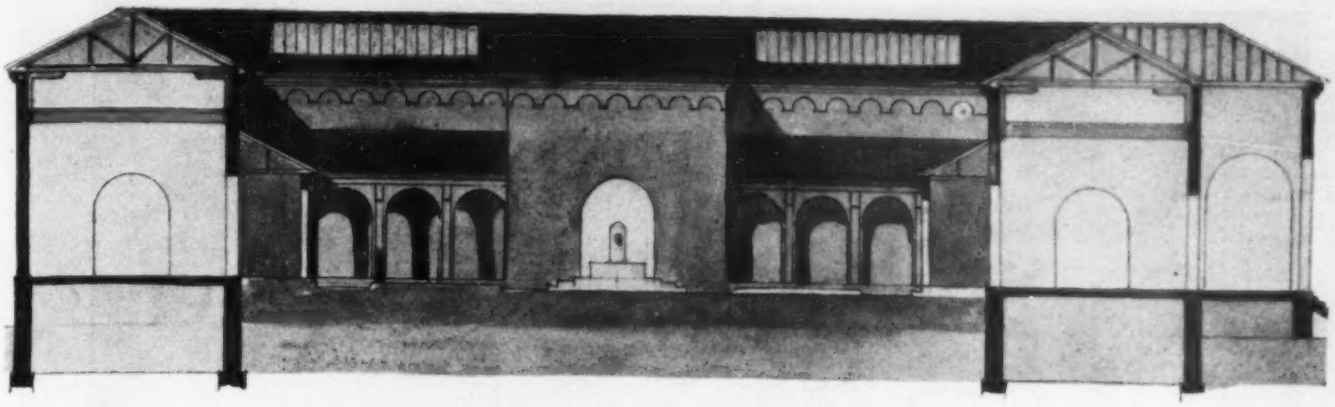
A.A. SCHOOLS.

Though the very success of the A.A. School raises some serious questioning as to the chances of the many new architects coming into being, it must be allowed that there is much cause for pleasure in the work of the students now exhibited. We all know (for have we not been told so often?) that the necessary qualities for making a good architect are so many and varied that it is seldom they all unite in one person. Therefore, in looking over the large collection of drawings and designs now on view in the galleries of the Architectural Association, the question naturally arises as to how far all this great and excellent effort leads to the making of good architects. One or two students certainly appear to possess the genuine instinct for architectural design which shows in a variety of subjects, but for the bulk of the work we can only with certainty say that it shows a capacity for good drawing or colour or capable rendering on paper of constructive details. We must say that, taken as a whole, this is an exhibition which has given us more than usual pleasure, because, in addition to ordinary show drawings of Renaissance composition and details and the clever rendering of old work, museum studies, etc., there are a few designs for buildings which show very decided merit and indicate more than a mere skill of illustration. In so simple a subject as a well cover, by J. E. Hubbard, we feel that the excellent coloured drawing shows a sympathetic intention which is promising. In the convent designs we have also a sense of the right feeling indicated by John Grey and W. Rathington, the latter being especially good. The design for a stores façade represents some good work The shop façade, by R E Enthoven, is very satisfactory in its proportion and simple, sensible treatment. A yacht club-house by the same student is also noticeable, and a good design is that by H. Braddock. A repertory theatre, by Stuart C. Kirby, is well drawn, and of good character. The Fish Market, by H.C. Morton, is a sensible and agreeable design in brick and stone with flat-pitched roof. Mrs. Arabella Fussey is responsible for some good work in the designs for a bungalow which students have hastened to supply to her. R. E. Enthoven illustrates his design by a very clever perspective sketch depicting it under winter snow and a grey sky, with a well-thought-out plan and admirably-drawn elevations. The kitchen fireplace might perhaps have been planned a little farther from the main entrance and linked up with the chimney to the living-room. An excellent colour sketch of a bungalow by A. Sleigh has a very diminutive chimney. A seaside bungalow by A. T. Jones and one by L. Jackson are meritorious designs.

Amongst other things are a capital coloured dome sketch (interior) by F. C. Kirby, a clever baldachino colour sketch by W. Rathington, and in the fourth and fifth term gallery are admirable drawings, amongst which not the least distinguished are the great tower building by A. Devereux, the garden shelter by T. C. Shepherd, and the entrance to a garden suburb by R. J Masey. The fountain design by T. C. Shepherd is a further tribute to his power of design and clever handling of colour.

Obituary.

Mr. George Beaumont, A.R.I.B.A., whose death has taken place in America, was born in Leeds, and at one time was well known in Yorkshire architectural circles. He was articled to Mr. Stephen Ernest Smith, who practised in Park Row, Leeds. He won the gold medal of the Leeds and Yorkshire Architectural Society for a drawing of the chancel arch in Adel Church About thirty-eight years ago he went to Chicago, where he practised, and eventually became President of the Chicago Architectural Society. Mr. Beaumont was about 70 years of age.



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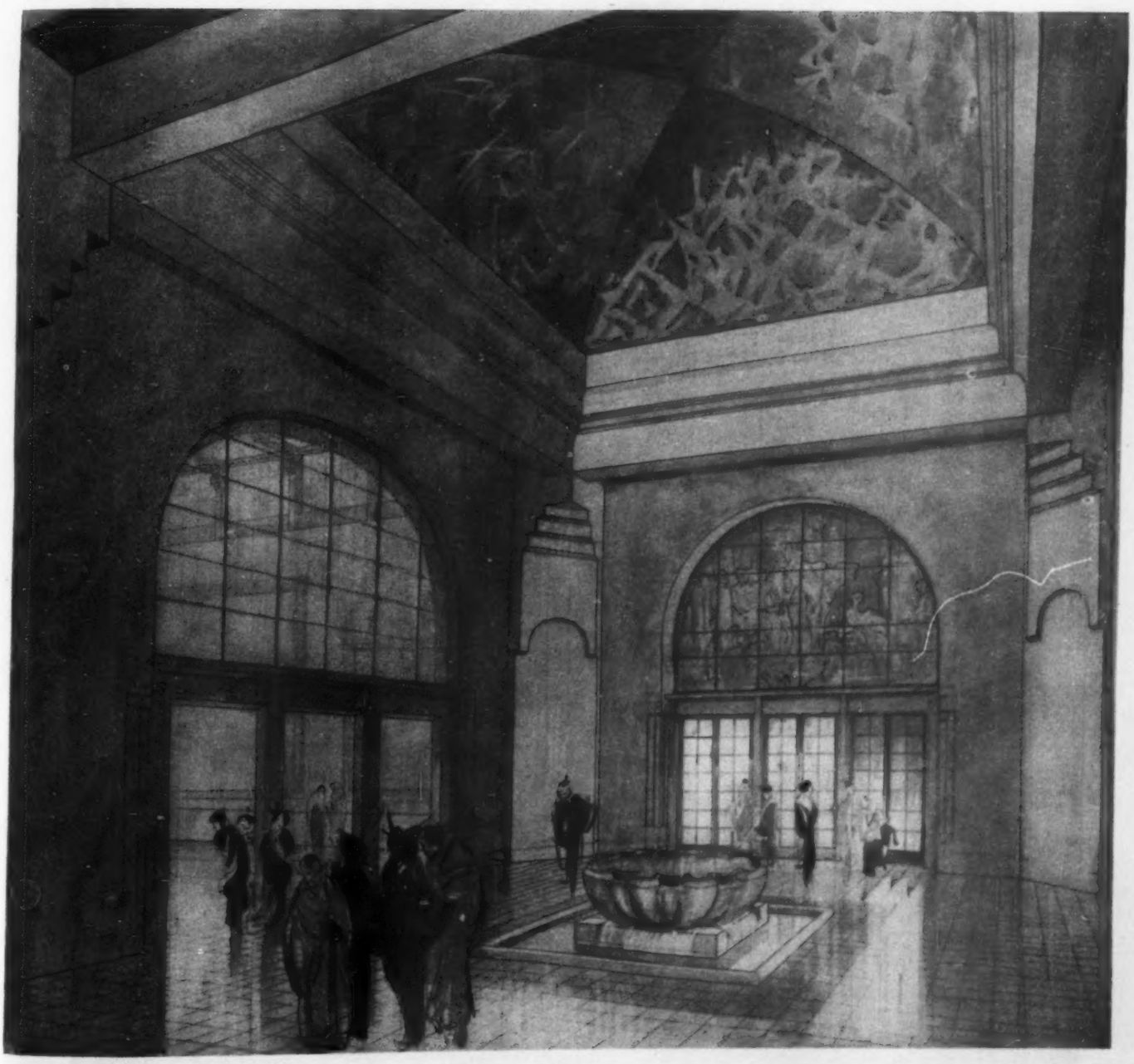
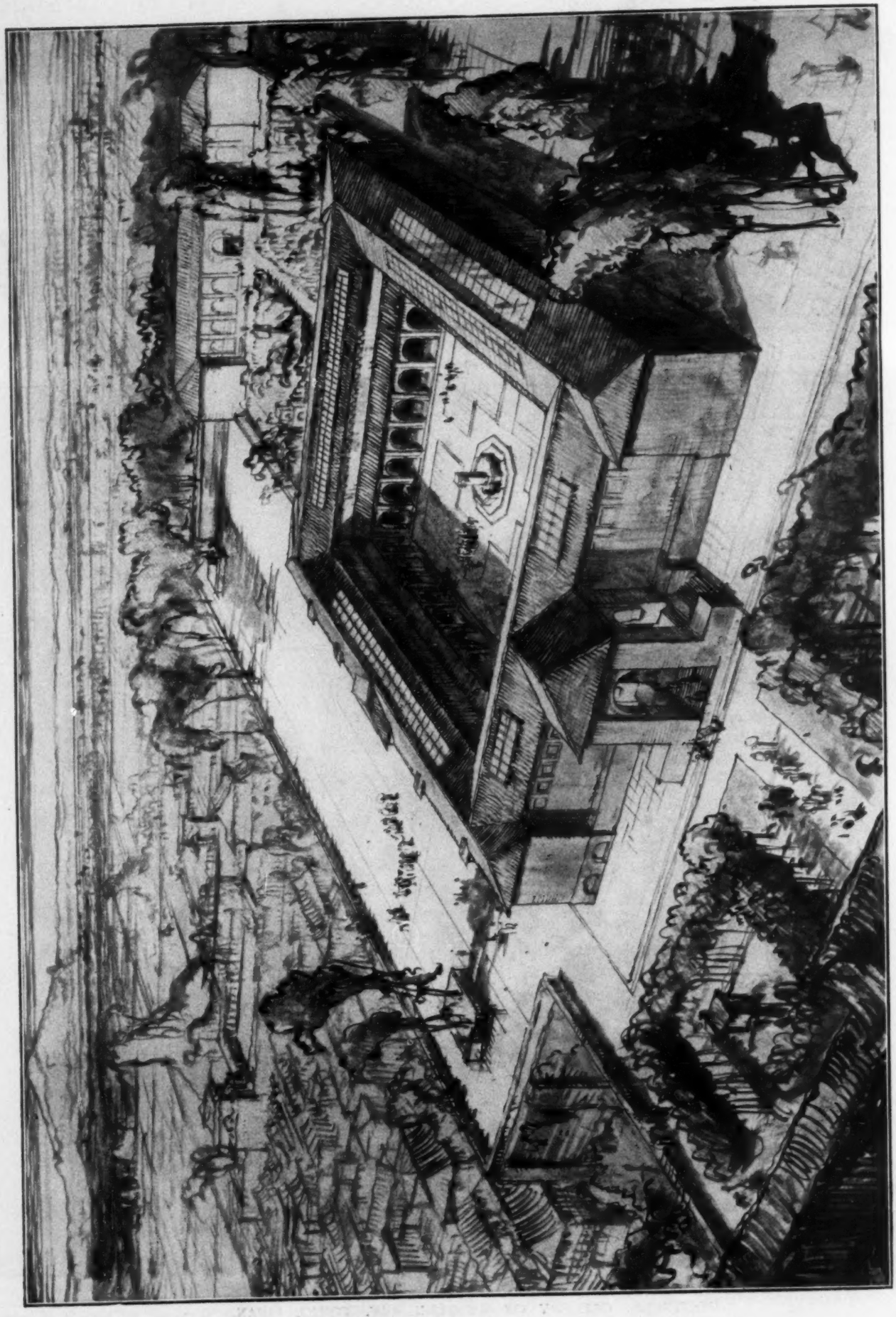
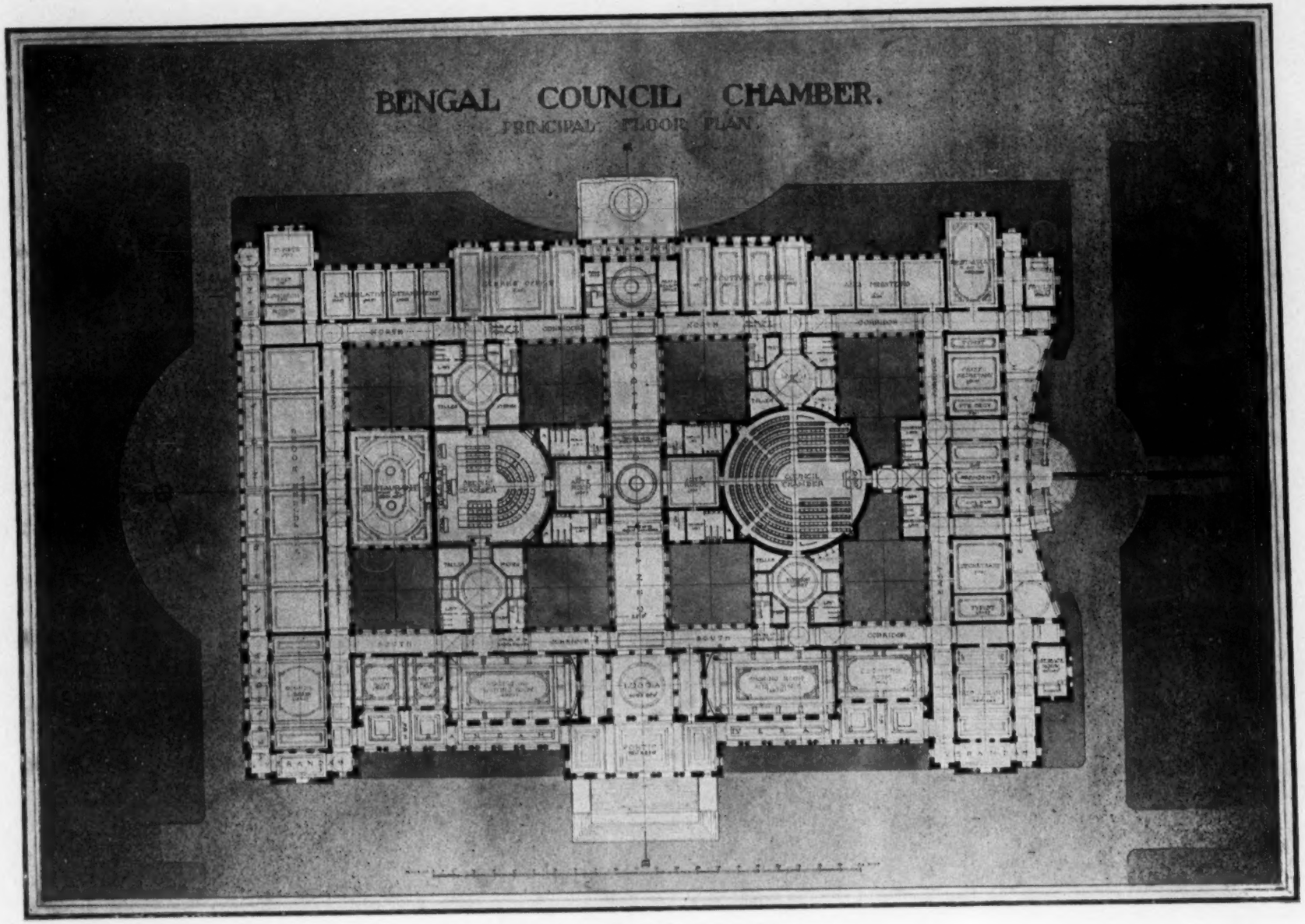


VESTIBULE, GALLERY OF WESTERN ART, TOKIO, JAPAN.

Mr. Frank Brangwyn, R.A., Architect.

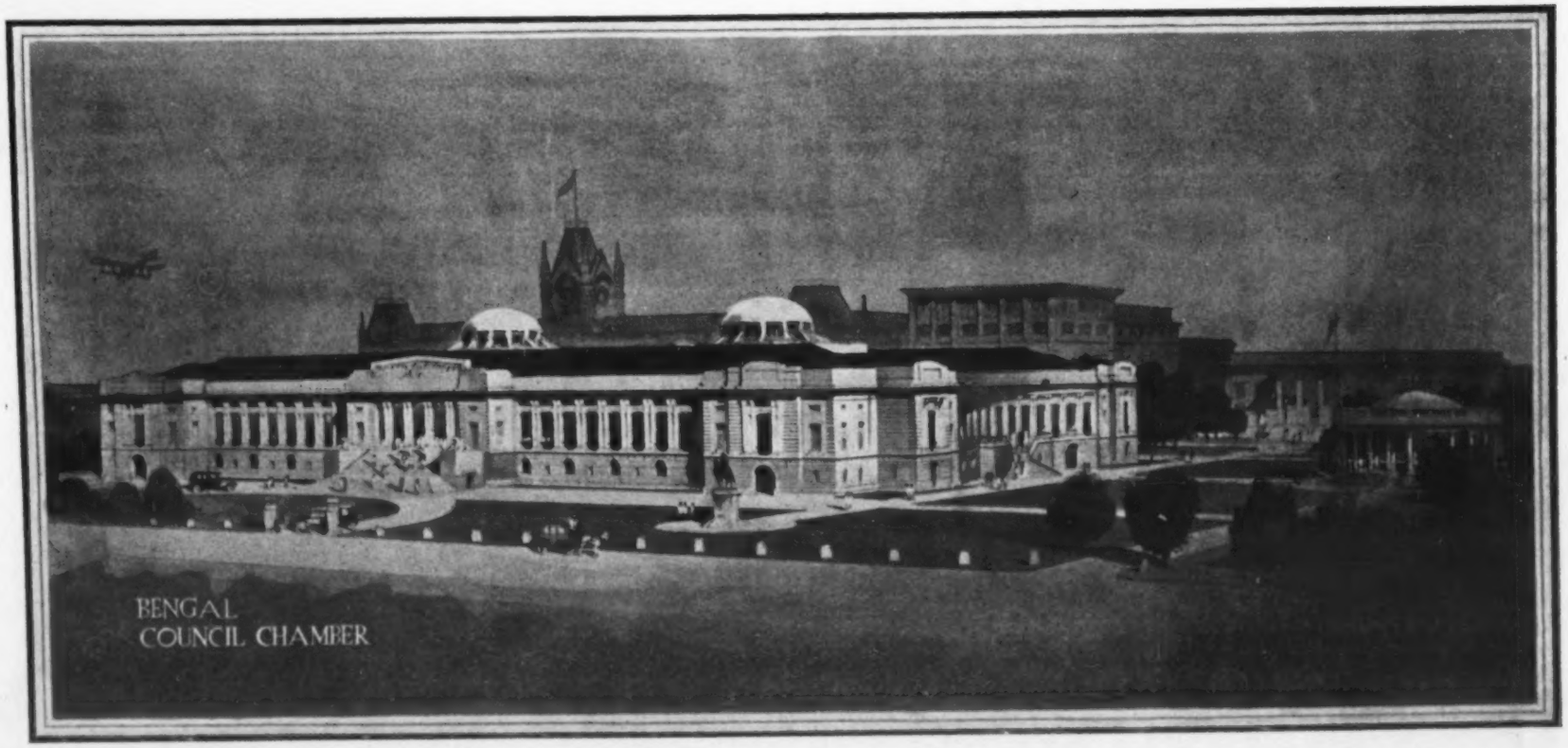


A GALLERY OF WESTERN ART, CITY OF TOKIO, JAPAN. Mr. Frank Brangwyn, R.A., Architect.



BENGAL COUNCIL CHAMBER COMPETITION.

Design submitted by Messrs. Edwin T. Hall, F.R.I.B.A., and E. Stanley Hall, M.A., F.R.I.B.A



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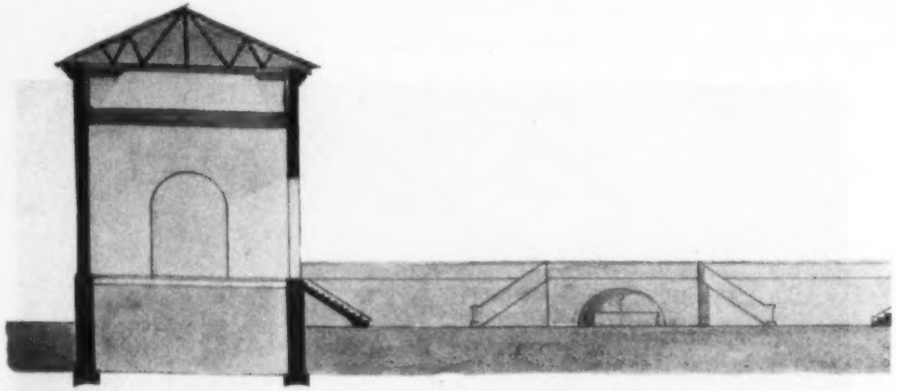
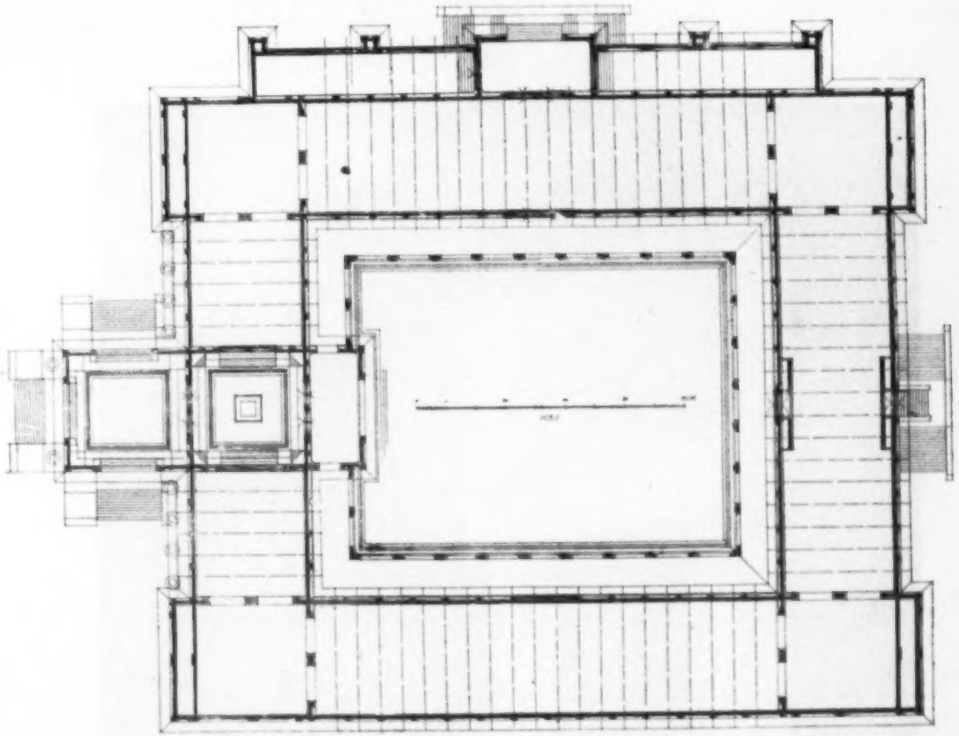
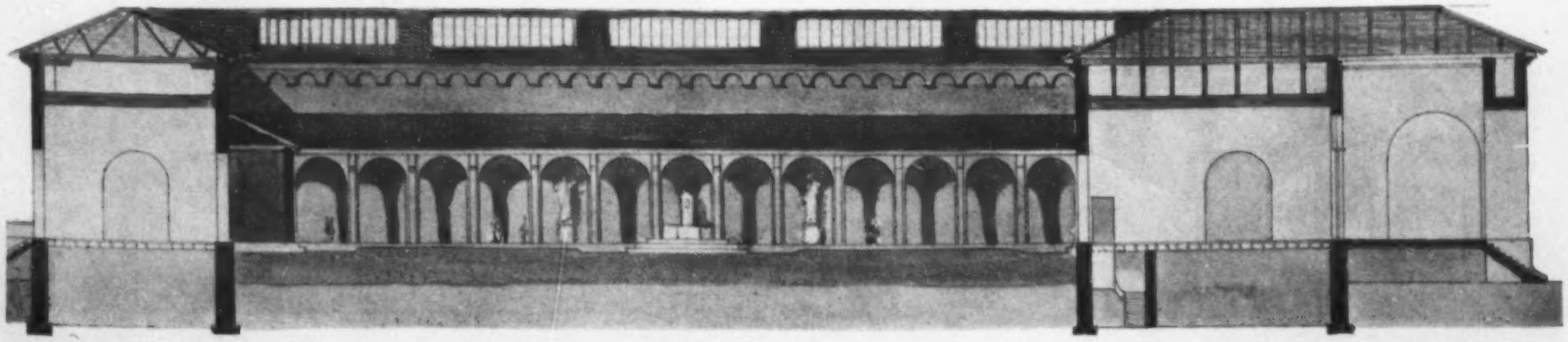


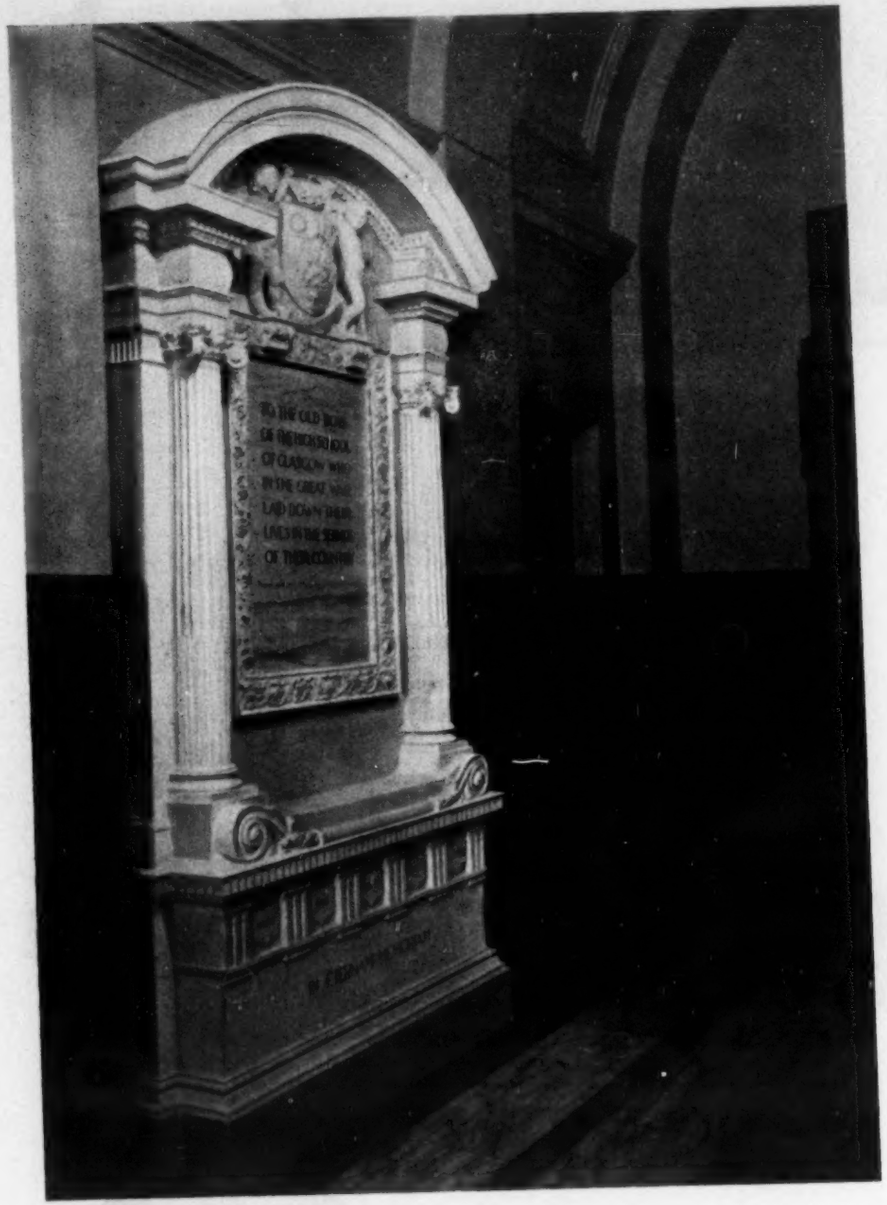


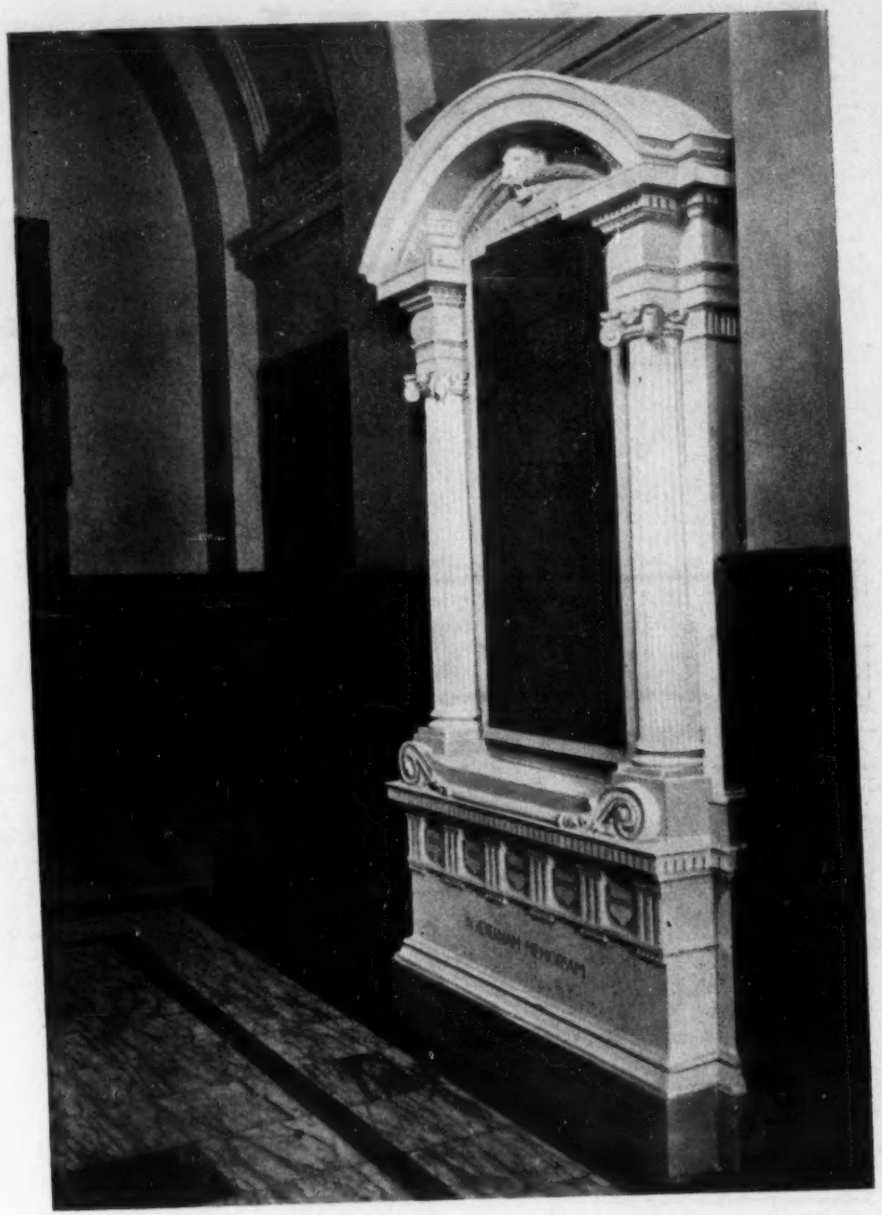
PLAN AND SECTIONS.

A GALLERY OF WESTERN ART, CITY OF TOKIO.

Mr. Frank Brangwyn, R.A., Architect.



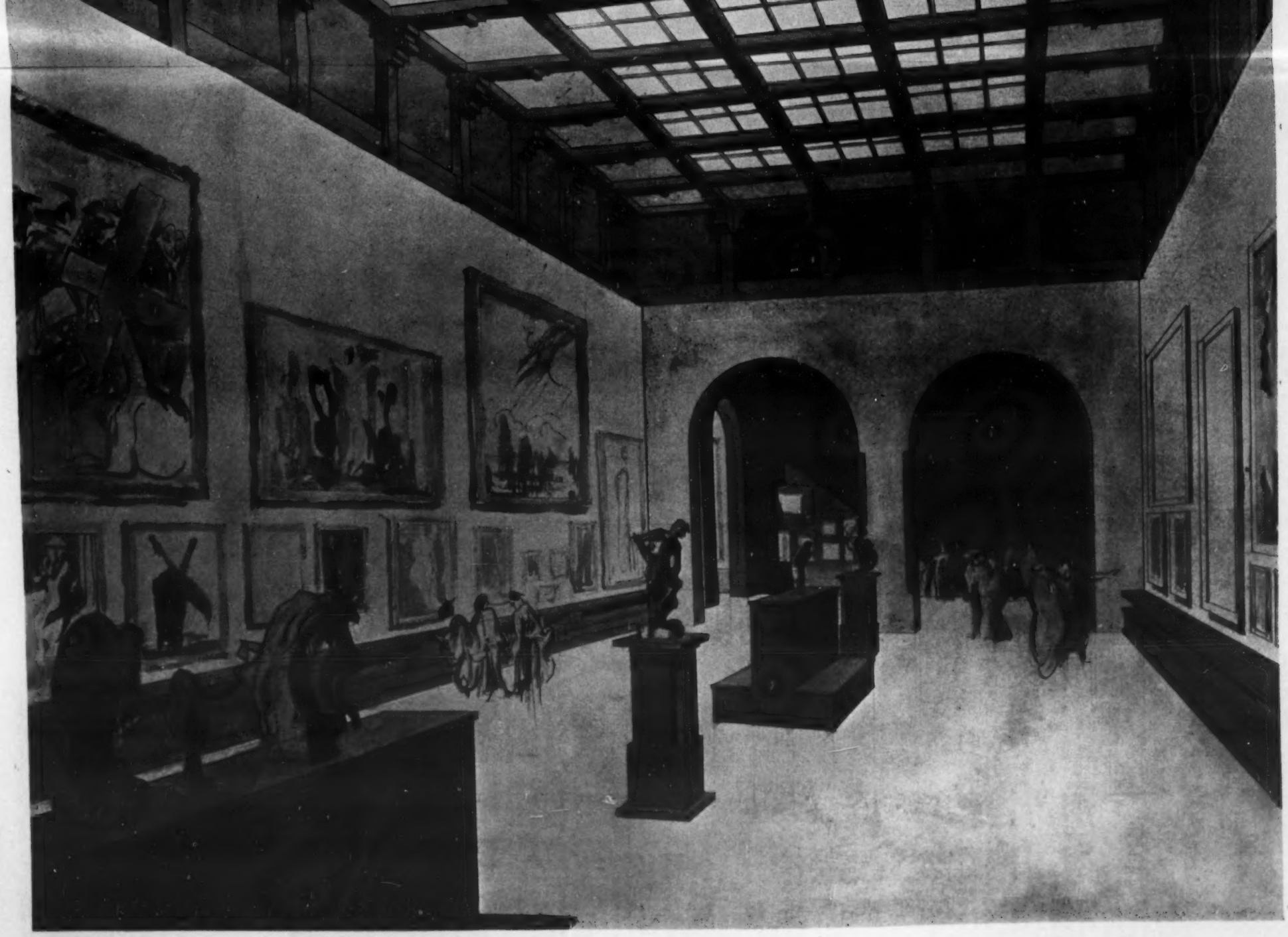




GLASGOW HIGH SCHOOL WAR MEMORIAL. Mr. Will. J. B. Wright, Lic.R.I.B.A., Architect.

[The contractors for this memorial were: Sculpture work, the late W. Vickers; oak panelling and wood carving, Peter Cumming; marble floor, Galbraith & Winton; gunmetal plate with names, Paratay, Ltd.]

ENCLOSED GARDEN COURT TO THE REAR OF THE MAIN GALLERY.



ONE OF THE FOUR ROOMS.

GALLERY OF WESTERN ART, CITY OF TOKIO, JAPAN. MR. FRANK BRANGWYN, R.A., Architect.

LONDINIUM: ARCHITECTURE AND THE CRAFTS.—VIII.

BY W. R. LETHABY.

WALL PAINTINGS AND MARBLE LININGS.

By putting together the mosaic floors, the fragments of wall paintings, and the marble linings, we can gain a fairly certain knowledge of what the finer Roman interiors in Londinium were like, and we may further add to the impression by remembering the many precious objects in silver, bronze, pottery and glass, which are in our museums. Broken remnants of wall paintings have been found in large quantities, and pieces are preserved at the British, the Guildhall, and the London Museums, also at the Society of Antiquaries. Some account of several of them was given by Roach Smith in his "Illustrations of Roman London," from which Fig. 1 is reduced. The fragment (5, Fig. 1), now with the others in the British Museum, is part of a pilaster-like strip about 8 ins. wide of foliage springing symmetrically on each side of a central vertical stem; it is on a dark ground and marginal lines divide it off from a red space which covered the main surfaces of the wall. This "pilaster" was doubtless one of several. The morsels (6 & 7, Fig. 1) evidently belonged together; the one-sided nature of the design suggests that it was next the angle of a room; and the loop in the upper part of 7 looks like the end of a festoon; 9 is somewhat similar; and the others may all have belonged to "pilaster" strips.

The method of dividing up the wall space with stripes of plain colour or with "pilasters" was very general. A simpler scheme was to have marginal borders only, and these were frequently of considerable width made up of many bands and lines of colour. Dados were very general, sometimes only a plain band of colour or a horizontal bar running into the margins; at other times they were fully decorated: two examples lately illustrated in *Archæologia*, from Caerwent and Silchester, are really fine work. The latter had a row of "panels," alternating square and round, set with leaves and ears of corn, on a red ground between dark top and bottom bands.

Stripes and Margins.—A piece of wall of considerable height was found at Bignor, having a quadrant skirting at the bottom, a plain dark band as a low dado, and the space above divided into panels. At Cirencester a fragment was found which showed a band of fair yellow edged with margins of white separating spaces of a cool grey-green.

FIG. 2.

At the Society of Antiquaries is a fragment showing fine red and green spaces divided by a white band and a black line—very simple, but beautiful colour (Fig. 2).

Of a great number of fragments in our museums one cannot determine if they only represent margins or whether they may have come from vertical strips. A piece of plaster from Silchester shows a broad band of red then two white lines separated by one of black, and then a surface of grey, except for other thin black lines. A piece of plaster at the Guildhall had a dark green band, probably 3 or 4 in. wide, then a strip of rather transparent crimson 1½ in. wide, finished against a yellow line, then an interval of white 1 in. wide, followed by the green again 1¼ in. wide and a yellow line, then 2 in. of white and a single yellow line followed by a white area. This was certainly a margin, and here we get an example of a method of gradating the border into the general field. In 1785 "some large pieces of painted stucco" were found in Lombard-street (*Archæol.* viii). Drawings made at the time are in the Guildhall library. A piece was banded green and black with the addition of thin marginal lines. Two of the pieces were from borders having lines with additional touches. One had merely groups of comma-like hooks springing from the line ξ, and the other, little fleur-de-lis forms on a white band edging a bright blue space. These were, I think, coarser variants of the treatment shown in 6, Fig. 1. The margins were sometimes "shaded" like mouldings; there are one or two examples of this treatment at Silchester.

FIG. 3

Pilasters.—In some cases the ornamental vertical strips may not have been contained within pilaster-like forms. A fragment in the British Museum, which has an umbrella-like calyx to a number of springing stalks, may be one of these (Fig. 3). It is on a brown-red ground, and there are some other small fragments with leaves on a similar colour. The cast shadows make me think that it was independent of a pilaster. The colour and workmanship appear very similar to the festoon of foliage from Southwark, described below; probably such uprights usually upheld festoons. The head rising from a calyx illustrated by Roach Smith came from another similar vertical composition. (8, Fig. 1). Two small pieces at the Guildhall represent a similar upright (Fig. 4). Again, in the British Museum is a very simple vertical upright something like a prolonged ear of corn (9, Fig. 1).

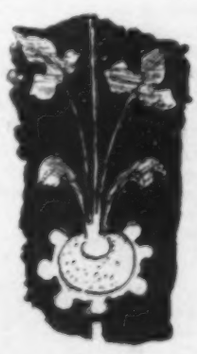


FIG. 4.

Figs. 5, 6, 7, at the British Museum are from pilasters. Fig. 6 is a restoration of 3, Fig. 1. Fig. 8 is a small fragment at the Society of Antiquaries; this, too, probably came from a vertical stem or a pilaster. Sometimes the pilasters imitated marble.

Dados.—A sketch at the Society of Antiquaries shows the walls of a plain little room found in Leadenhall-street, which had pink margin bands along the skirting and up the angles and another pink stripe about 2 ft. above the floor. The general surface was white. Other dados seem to have been divided up into small plain "panels" or diagonal latticos. At Silchester there is a fragment with a green band about 1¼ in. wide crossing another at right angles, having a red line parallel with the green band with a "blob" at the angle. This seems to have represented a dado treatment (Fig. 9). At the British Museum are pieces of plaster painted with narrow red bands on a green ground, apparently parts of a plain lattice

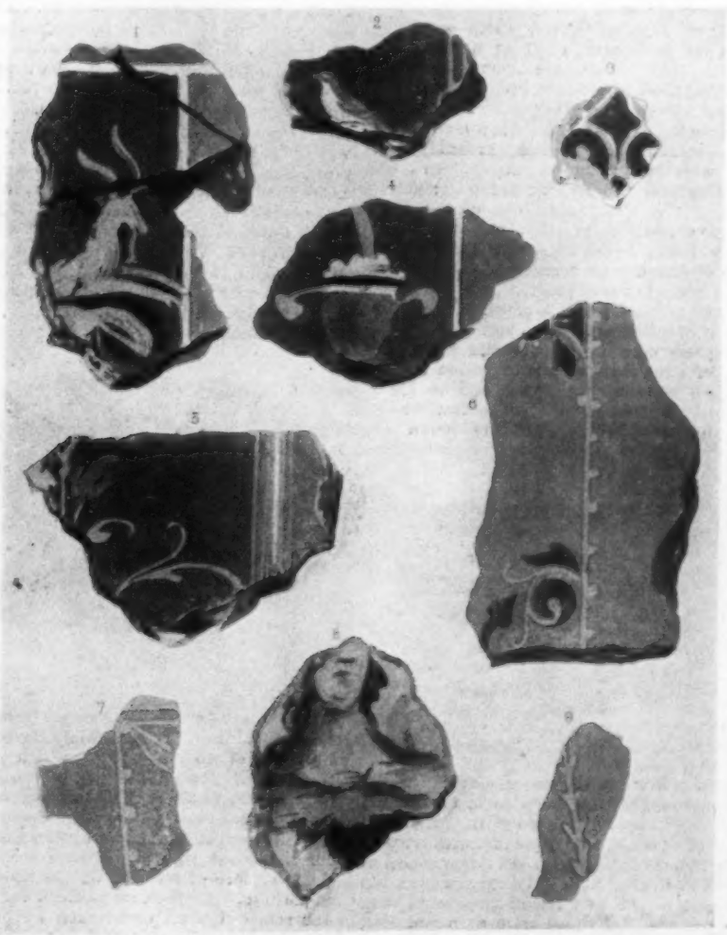


FIG. 1.

pattern. At the Guildhall is a small piece of plaster having a blue band edged by a white line and with a yellow line beyond the red ground and another at right angles (Fig. 10). This is probably part of a dado; there may have been little subjects or sprigs in the square spaces. This is a notable example of adding "pearling" to the edges of bands or the lines, a favourite method of the painters of Londinium as several of the other sketches show.

FIG. 5

A large fragment of decoration at the British Museum imitates marble. A circle of green speckled porphyry has a margin of red porphyry, with figured "marble" of pink-yellow beyond. The circle is defined by scratched lines drawn on the plaster by a compass as a guide for the decorator. This was doubtless part of a dado for which the size of the circle is entirely suitable. Further, fragments of a similar dado were found at Cirencester in position at the foot of a wall. This is described by Buckmann and Newmarch, but they did not recognise the marbling as such. One square panel contained a circle speckled "dark pink and black"; the panels on either band were yellow with wavy markings. Here again porphyry and marble were imitated. At Silchester fragments of marbling have been found, and in the Rochester Museum are many other pieces. Most of these would have been from dadoes. A wall was discovered in January, 1922, in the centre of Gracechurch-street, the plaster of which "still retained the lower part of square panels painted in black outline, with a simple ornamentation around, and the painted plaster gave the impression that it had been coloured in imitation of marble" (Daily paper).

FIG. 6.

Two fragments at the British Museum, which were illustrated by Roach Smith and Wright, are covered with a diaper arranged thus X X X / X X X with little flowers and figures in the intervals. These must, I think, have come from a dado. The little figure on one of the pieces is now broken, but a sketch by Fairholt in the Victoria and Albert Museum shows it complete with a level band at the top. It is so engraved by Thomas Wright, and I think that part must have been broken off since it was drawn rather than that the drawing was restored.

Wright says that these fragments were from a large building near Crosby-square. The pattern is on a fine red ground.

At the Guildhall Museum is a piece which is fortunately larger than ordinary, allowing for the pattern to be restored (Fig. 11). The

FIG. 7

ground was covered with circles small and great, the latter containing sprigs of flowers, all on a dark ground. This, I suppose, was also from a dado. The larger outer circle is made up of curious forms, which comparison shows were rose-petals. A fragment found in the Lombard-street excavations of 1785, of which there is a drawing in the Guildhall Library, shows segment of two circles, one within the other, red on bright blue, and apparently part of a powdering of small double circles.

Foliage.—In the London Museum is a morsel of pilaster, about as big as an open hand, having small leafage painted on a brown-red ground. The leaves are sharp and struck in in a masterly way; it is really beautiful (Fig. 12). The leaves spread from a central stem or line, and it is a part of a suspended festoon, I think, rather than of a growth of foliage. This must be the fragment found in Southwark—"The debris of Roman villas, with pavements, ornamental bowls, and pieces of painted plaster have been found. One of these last, in Mr. Syers Cumings' museum, has on it a slender

FIG. 8

FIG. 9.

stem with green leaves on a dull red field" (Mrs. E. Boger, *Southwark*, 1895. Mr. Cuming was a well-known antiquary).

In the British Museum are, as said above, two fragments of a scheme of decoration, which seems to have consisted of festoons hanging from slender uprights (6 and 7, Fig. 1).

Fig. 13, from the Guildhall, is, I suppose, a variety of vertical stem, but it may be part of a festoon.

Figures.—Some walls had figures in panels or singly on the general ground. At the Guildhall is a morsel of plaster containing parts of two small dancing figures, which occupied a panel not more than eight or nine inches high (Fig. 14). From the composition it appears that there would have been three figures altogether, filling a square panel (Fig. 15). The central figure is of a darker hue than the others, and apparently the face is male; probably it is a faun with two nymphs. The painting of this is of high competence, and in full Pompeian tradition. The little panel, one of a series, would have been set at the centre of a wall division. Roach Smith illustrated the head of a figure of Mercury on a red ground, this was probably a single figure painted on the general ground and not included in a panel. Evidences for figures of full size have also been found.

A good foot on a blue ground and a piece of drapery of large scale of fine execution are in the British Museum, which are said to have come from Leadenhall-street (The Basilica?). Wright describes some fragments found at Great Chesterford, Essex. "A considerable

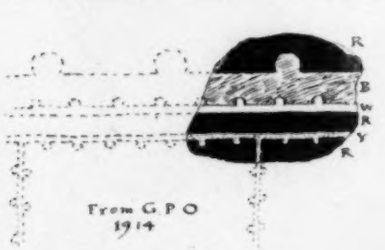


FIG. 10.

variety of rather elegant patterns, among which were some representing portions of the human figure. The most remarkable of the latter was the foot of a female, as large as life, with drapery flowing round it. In one of the larger rooms of the villa at Combe End, in Gloucestershire, the lower part of the wall remained covered with fresco painting, on which were a row of feet, also as large as life, which had belonged to some grand painting."

Parts of inscriptions have also been found, a morsel was found on Tower-hill of "white wall painting with the letters [large capitals] S V P in reddish colour." At Woodchester, some fragments "were painted with large capital letters which had formed part of inscriptions" (Wright, p. 195).

Cast-Shadows.—It was the practice in figure and foliage painting to boldly reinforce the forms with cast-shadows (see a fragment of a

FIG. 11.

figure in Roach Smith's "Illustrations," pl. 14). A piece of a foliage tendril or festoon in the Rochester Museum, from the villa at Darenth, has cast-shadows. This is of long delicate grey-green olive leaves on a red ground, and the sharp shadow below forces it into prominence. Several of the ornamental patterns found in London were reinforced by shadows. A striking example is the large scroll foliage pattern from Leadenhall Market, where separate shadow lines and touches are laid almost like a secondary pattern. This, I think, from the scale of the work, must have been part of the decorations of the Civil Basilica described in part 2. (Other walls have recently been found under St. Peter's, Cornhill, corresponding with those under Leadenhall Market. "All these finds seem to be parts of a great building more than 400 ft. long which crowned the eastern hill of London."—*Antiq. Journal*, Vol. 2, p. 260).

Provincial Roman painting is not fine as compared with the great things in either Greek or Gothic art, but we must remember, in comparing it with anything we can obtain to-day,

FIG. 12.

that it was the ordinary journeyman decorator's work of the time. It is certainly far beyond the standard of common work which we reach to-day; and Roman London, on the testimony of the arts, must have been quite a civilised place. A full study of the fragments in country museums ought to make an interesting subject for a student who is prepared to take up a definite piece of research on the history of art in Britain. Further, suggestions for enlarging the scope of work undertaken by present-day "painters and decorators" might be gathered from these ancient paintings. Our workmen are

capable of much better work than is ordinarily demanded of them. Their skill in graining was noticeable; it was the last field where any freedom was left the workmen, and it was probably for that very reason (unconsciously functioning) that architects have tried to kill it. It is our duty to demand free and interesting work. A point to be thought of in regard to the Roman decorations is the character of the work. These are not "designs" laboriously set out, transferred from a full-sized drawing, and painfully "executed"; they are swiftly painted in masterly brush strokes and varied at will for the fun of the thing.

Fig. 13.

Marble Wall-linings.—In London, at Silchester, and elsewhere, fragments of coloured marbles, and even of porphyries, have been found, which suggest that they were parts of wall-linings, or rather of dadoes. Wright says, of the Great Villa at Woodchester, "Several slices of marble, of different sorts, but chiefly foreign, were also found. These had, perhaps, been employed to encrust the walls. Some of these pieces were not more than a quarter of an inch thick." At Silchester there were pieces of porphyry not more than three-sixteenths of an inch thick, and also pieces of fine white marble. At the British Museum there are many small pieces of various colours, some of red and green porphyry. A piece of white marble at the British Museum has a shallow edge moulding such as I have frequently seen on dado-slabs in Rome. Such moulding is an excellent way of joining up continuous slab work. The pieces of green porphyry at the British Museum are from the site of East India House (where the Bacchus pavement was found), and they were given by Sir W. Tite in 1884 (who, about that time, wrote on the mosaic pavement). These pieces are cut into forms—a part of a circular band and a triangle; they must have belonged to some handsome piece of work, like an Opus Alexandranum pavement. It looks as if this building, close by the Forum and Basilica, was of special importance—perhaps the governor's palace.

There must have been skilled marble workers in London. This is proved by the fact that fragments of polished native marbles have been found. Roach Smith speaks of a grave slab of "native green marble." Fragments of Purbeck are also known.

At Silchester evidence has been found that mosaics were applied to the walls of a chamber in the Baths; and at Wroxeter a considerable fragment of wall mosaic was found in place many years ago.

Fig. 14.

Fig. 15.

BOOK REVIEWS.

Everyday Life in the Old Stone Age. Written and illustrated by Marjorie and C. H. B. Quennell. London: B. T. Batsford, Ltd. Price 5s. net.

This excellent book is designed to appeal to boys and girls. It will, however, be found interesting to readers of any age, since it gives, in brief outline, a readable résumé of the state of our knowledge concerning primitive man and his method of life before the period when stone weapons began to receive the grinding and polishing which characterises the later period known as the Neolithic or New Stone Age. Interesting parallels are drawn between the primitive races of modern times with those of the past, and where one or two elements of similarity are found to exist; in fact, it is quite reasonable to suppose that others may have existed, but that the evidences of them have been destroyed in the course of the many thousands of years which separate us from the most recent of the European peoples of the old Stone Age. The book opens with a short account of the processes of geological and archæological science in reasonable anticipation of the critic's exclamation, "How can they possibly know that?" The geological diagrams and their accompanying explanatory notes are delightfully clear, and should anyone wish to pursue the subject in greater detail the list of authorities contains the names of several standard works on geology, history and anthropology. One chapter which might have been made more comprehensive is that in which the chipping of the flint is described. The young reader, who is anything of a man of his hands will wish to know how to chip a flint for himself, and this the authors do not impart, confessing "it is a comparatively easy matter to strike off a flake, but a very difficult one to shape it." One method that yields reasonably good results is to sandwich the flint to be fractured between two larger and flatter ones and strike the upper one smartly with a fourth; this may not be the method of the ancients but it is a safe one, as the minute scales are prevented from flying up into one's eyes by the overhanging edges of the upper stone. With flint flakes produced in this way a little drift-wood boat was carved in the course of an afternoon on an English beach, the inside being hollowed out and the stern cut square across the grain with different suitable corners of the same fragment of flint. Fig. 12, showing the Piltdown Man at work with a flint in each hand and his eyes perilously near the striking surface, does not exhibit a safe method for the beginner. The efficiency of the flint is really very high, and compares in cutting power very favourably with a pocket knife for which a whetstone is not at hand, and it is a pleasure to see that the authors rightly commend the powers of observation of the old engravers rather than merely wondering at their patience in the use of the flint. In connection with the extremely fragmentary evidences which remain from these remote times, decay and absorption have probably removed many evidences of instruments of wood and ivory. A damp situation is fatal to the preservation of some materials, and ivory plaques of less than three thousand years uncovered at the shrine of Artemis Orthia, at Sparta, in 1908, were frequently found to be in such an advanced state of decay as to need the greatest care to prevent them from crumbling on removal. The natural result is an underestimate of the skill and resources of the peoples whose primitive weapons we find. The theme is handled with great good sense and sympathy, and the numerous drawings are descriptive and illuminating.

The Story of Southwark Cathedral. By the Rev. T. P. Stevens. London: Sampson, Low, Marston & Co., Ltd. Price 2s. net.

Southwark Cathedral is associated with the lives of some of the greatest of English poets, and is rich in their memorials. John Gower, the first English poet, was buried in the Cathedral, and his tomb, after being removed twice, now stands in its original position in the north aisle, where he had founded a chantry chapel. A modern cenotaph commemorates William Shakespeare, several of whose non-historical plays were written in the neighbourhood and acted at the Globe Playhouse on Bankside. A series of memorial windows in stained glass also includes reference to John Gower and to Geoffrey Chaucer. Other windows serve as memorials to Shakespeare, Philip Massinger, John Fletcher, Francis Beaumont, Ned Alleyn, playwriters or actors of the Elizabethan period; Oliver Goldsmith, Samuel Johnson, Alexander Cruden, and John Bunyan. The windows are modern works, most of them from the studio of the late Charles Eamer Kempe, the great west window having been painted by Mr. Henry Holiday, of Hampstead. The nave is itself a modern building, completed in 1897 from the designs of Sir Arthur Blomfield in scholarly "revival" Gothic. In defence of this particular piece of restoration it should be said that the buildings removed to make way for it were themselves but a mean and flimsy substitute for the old work. The new nave, like many another sincere work, has been subjected to senseless abuse on account of the change in architectural fashion since it was built, but the author rightly points out that "Sir Arthur . . . . went ahead fearlessly and gave us a nave which most simple souls appreciate. Generally he built the new pillars on the old foundations, and he respected the original plan of making them round and octagonal alternately." The choir is a part of the 13th-century church, and presents several interesting differences of detail on the north and south sides. These differences seem to indicate that separate contractors undertook different parts of the work and were allowed to carry them into execution without being subjected to very exacting or critical supervision from the architect or master builder controlling the work. The choir roof was rebuilt by Mr. George Gwilt, who also removed the five-light window from the East end and "restored" a three-light window in its place.

Several interesting photographs illustrate the book, which suffers, however, from lack of a plan

STONE PRESERVATION AND THE WHITE-WASHING OF THE ABBEY.

BY A. P. LAURIE.

(Professor of Chemistry to the Royal Academy of Arts.)

The proposal to whitewash part of Westminster Abbey has brought up again the question that is always with us of stone preservation, and the owners of various proprietary articles are busy recommending their special preparations. It is, therefore, necessary to state quite clearly what the present position is with reference to stone preservatives. In the first place, there has been a curious paucity of inventions in this direction for many years. It is not, of course, possible to say that every proprietary article here and in America has been examined, but certainly a very large number have been subjected to analysis, either in connection with the researches carried on by His Majesty's Office of Works or by the Research Department in America, and the results have shown that the changes have been rung upon one or two fundamental ideas. Either the preservative is of the nature of a paraffin wax, soap, or oil, or resin preparation, all of which agents have certain waterproofing properties. Of these, none of them, with the possible exception of paraffin, is itself able to resist the attack of destructive atmospheric agents permanently. Paraffin wax is the most durable material, and produces, temporarily, the most complete waterproofing of the stone, but owing to its tendency to form a surface layer is very apt ultimately to cause scaling, and, therefore, should not be used. The best of these preservatives, from my experience, is a solution of common resin in alcohol, or, still better, in toluol, which should not contain more than, at the most, 20 per cent. of resin, and in the case of very dense stone should be diluted still further. The addition of a little Chinese wood oil, not more than 5 per cent., is also an improvement. The failure of such resin solutions in the past has been due to their not being sufficiently diluted to ensure their penetration. There are also the solutions in water, which are intended to produce an insoluble precipitation inside the pores of the stone, and of these there is no doubt that the best is fluo-silicate of magnesium. It has, however, a serious objection that it depends for its success on attacking the natural binding material of the stone, viz., calcite, and it is, therefore, doubtful whether in the long run it will not do more harm than good.

In discussing this matter of preservatives a clear distinction must be made between sandstone and limestone. In the case of sandstone we have an aggregate consisting principally of grains of quartz which are themselves practically indestructible and which may be cemented together by various different materials, the most durable sandstones being those in which the cement is silica; that is, to put it loosely, quartz which has been in solution and re-deposited. When sandstones decay it is due to the attack on the cementing material, which is usually calcite or carbonate of lime, and, therefore, if, without any chemical action on the cementing material of the stone, we can supplement the existing cement by the introduction of a silica cement, we should be able to preserve sandstones indefinitely. It is in this direction that I have been experimenting lately, and I have been successful in preparing a silica ether which on exposure to moist air decomposes and deposits a thin, transparent layer of hydrated silica between the particles of the stone. I am, therefore, hopeful that as far as sandstones are concerned the problem is solved.

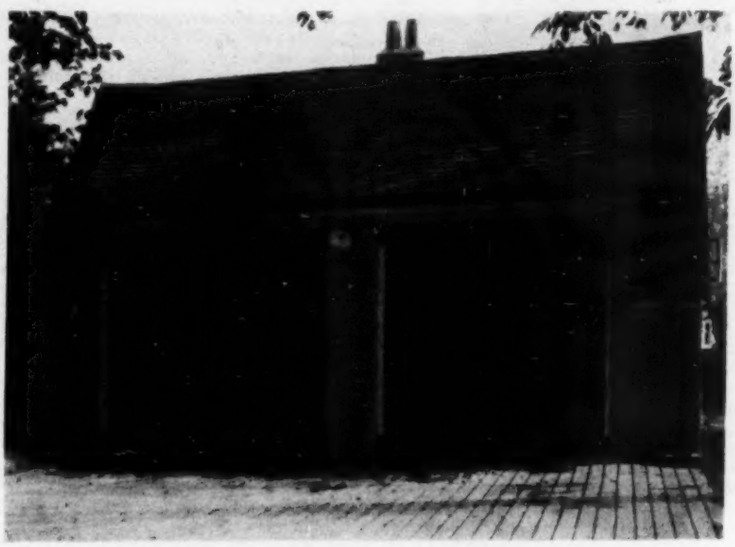
The question of preserving limestone is very much more difficult, because, in this case, the fabric of the stone itself is soluble in the carbonic acid gas in the air and in the sulphur acids produced by the burning of coal, so that it is necessary to devise a stone preservative which will not only bind these particles of limestone together but will coat them with a waterproofing layer which cannot be penetrated by injurious gases or solutions; in addition, this waterproofing layer must be carried to a sufficient depth to prevent the scaling of the stone. I have no hesitation in saying that there is no known stone preservative which will do more than delay the attack on limestones, and that, in many cases, owing to the fineness of the pores of many limestones, such preservatives ultimately do harm by merely penetrating the superficial layer, and therefore causing the stone to scale. There is no advance made towards the solution of this problem by the bringing out of old ideas under new names.

This being the position of affairs we come to the interesting suggestion which has been made to whitewash the Abbey. This may be approached from two points of view—the æsthetic and the practical. To deal with the stone preservation problem I am of opinion that a thin coating of whitewash will probably tend, on the whole, to protect the stone temporarily from attack if there is no fear of the entrance of water from the back. For instance, on the ordinary flat stone front of a house limewash would form a protective coating, but if there is any risk of water soaking in behind the whitewash layer, unless this layer is very thin, it would tend to hasten the decay of the stone. I have seen many cases where thin coatings of lime, and lime and oil, and cement, have formed a water lock, and resulted in rapid decay of the stone behind. I do not suppose that a very thin wash would have this objection. The difficulty seems to me to decide what is to happen in the future. It will probably be necessary to repeat the wash every two or three years, and in this way thicker and thicker layers will be formed, but ultimately these layers would be, in my opinion, a source of danger.

There is also, of course, the æsthetic question. Even if we agreed that the first wash would be an improvement, as this coating is repeated over and over again it will ultimately smother the details of the stonework, as can be seen in any old limewashed building

It is not my intention here to discuss the æsthetic aspects of the question, but I should certainly prefer, if a limewash is to be used, that it should be pure white, and not buff in colour.

To sum up the whole matter, there is no known preservative which will really preserve limestone exposed to the conditions of a London climate. A thin coating of limewash will probably, on the whole, have a protective effect, with the reservations which I have already made. The question, therefore, as to whether limewashing should be done or not is mainly an æsthetic one to be settled by the architects and artists.



Garage and Chauffeur's Cottage, White Heath, Woking: Garage Entrance.
Mr Maurice S. R. Adams, A.R.I.B.A., Architect.

COTTAGE AND GARAGE AT WOKING.

This building is designed to accommodate a garage for full-sized car, stable for pony, or alternatively a small car; and has living-room, bedroom, combined scullery and bathroom, w.c., food store and fuel store. It is fitted throughout with electric light, including wall plugs and hand lamps for the cars. The living-room has a combined range and grate, fitted with boiler supplying the hot water to bath and sink and also warming the small radiators in the two garages. A large washing space paved with granolithic is provided in front of the garage. The total cost, including lighting, heating, drainage and fixing entrance gates was just over £900 in 1920. The walls are of brick faced outside with cream coloured waterproofed roughcast. The pitched roofs are boarded, felted, and covered with hand-made sand-faced tiles of varied colourings. Hand-made bricks are used for the copings and chimney stack. Internally the walls are plastered in sirapite, all woodwork being stained with Solignum, including ceiling beams, which are left exposed to add to the appearance. The woodwork outside is painted white, doors and gates being emerald green. Floors are of patent composition to cottage, with granolithic pavings to garages. The architect is Mr. Maurice S. R. Adams, A.R.I.B.A., and the contractor Mr. A. E. Jones, of Woking.

Old Marlburians.

The Committee of the Marlborough College War Memorial is desirous of collecting the names of general contractors who are old Marlburians. Names should be sent to the Bursar, Marlborough College, Wilts.

TENTH INTERNATIONAL CONGRESS OF ARCHITECTS.

The tenth International Congress of Architects will be held under the auspices of the Société Centrale d'Architecture de Belgique, in Brussels, from September 4 to 11, 1922, and will be accompanied by an International and a National Retrospective Architectural Exhibition. It will be remembered that the outbreak of the war interrupted the preparations for the tenth congress of the regular series, which was to have been held in Petrograd in May, 1915, under the patronage of the late Tsar. The Société Centrale de Belgique will be celebrating the fiftieth anniversary of its foundation at the time of the Congress, and the architects of Belgium extend a cordial invitation to their foreign colleagues to join them in the celebration.

The Congress will include delegates from many foreign countries. The Belgian committee is under the chairmanship of M. J. J. Caluwaers, with M. R. Moenaert as Secretary.

Programme.

Sept. 4 (morning): Meeting of the Permanent Committee of the International Congress of Architects. 2 p.m.: Formal opening in the Palais des Academies. Evening, reception.

Sept. 5, 10 a.m.: Opening of the Architectural Exhibition in the Palais d'Egmont. 2 to 6 p.m.: Conferences. Evening, receptions.

Sept. 6, 9 a.m.: Visits to buildings of interest in Brussels. 2 to 6 p.m.: Conferences. Evening, receptions.

Sept. 7: Visits to the devastated zone, stopping at Ypres and spending the night at Bruges.

Sept. 8: Visits about Bruges, returning to Brussels in the evening.

Sept. 9: Excursion to Antwerp, visits about the city, and up the Scheldt. 2 to 5 p.m.: Conferences; returning to Brussels in the evening.

Sept. 10, 9 a.m. to noon: Visits to the Exposition. 2 to 6 p.m.: Conferences. Evening, receptions.

Sept. 11, 10 a.m.: Closing meeting.

Subjects for Discussion.

The following subjects will be discussed:—The responsibilities of the architect; schedule of charges; the appointing of State and municipal architects; the rights of authorship of the architect; the profession of architecture: its aims and its rights; women architects; public, national, and international competitions—the position of the winning architect in an international competition, or of one working in a foreign country; town planning; small houses; the influence of locality on architecture; the preservation of historic monuments, with consideration of their economic, hygienic, and social aspects.

Exhibitions.

An architectural exhibition will open on September 5 in the Palais d'Egmont, lasting two weeks. It will be divided in two general classes: (*a*) Belgian; 1, retrospective, 2, contemporaneous (Jury: Messrs. Maukels, Mercenier and Van Montfort); (*b*) Foreign: there will be as many sections as there are countries represented.

Dues.

The dues for members will be 50 frs.; for ladies accompanying members (wives and daughters only), 30 frs., which will give them the privilege of visits, excursions, and receptions.

Language.

Official delegates may address the meetings in their own language. The official language of the Congress will be French, though any other language may be used provided a *résumé* in French is submitted at the same time.

British Architects Invited.

All British architects are cordially invited to take part in the Congress. All those desiring to attend or to receive further information should communicate with The Secretary, the R.I.B.A., 9, Conduit-street, W.1.

Garage and Chauffeur's Cottage, White Heath, Woking.

Mr. Maurice S. R. Adams, A.R.I.B.A., Architect. (*See p.* 170.)

ARCHITECTS' FEES FOR STATE-AIDED HOUSING SCHEMES.

General Housing Memorandum No. 61, relating to the fees payable to architects in connection with State-aided housing schemes, has now been issued, and is in the following terms:—

The Minister of Health has given careful consideration to representations which have been made to him relative to the terms and conditions of payment for abandoned work as provided for in G.H.M. No. 52. While he considers the payments there authorised to be generally reasonable, he has recognised that, as between different schemes partially abandoned, the fees provided for could be more equitably apportioned in relation to the proportion of the work which is carried out; that, moreover, there are certain cases where schemes have been completely abandoned, in which the scale of payment for plans does not sufficiently allow for all the general work which may have been involved. In consultation with representatives of the Royal Institute of British Architects, the Minister has decided, therefore, that the following modifications shall be made in the terms as set out in G.H.M. No. 52:—

A.—G.H.M. No. 52 refers to "plans which are abandoned after approval by the Minister." This applies also to the present Memorandum; it is recognised, however, that plans may have been prepared by an architect to the instructions of a local authority, which have not been approved by the Minister, or even submitted for approval; and that the architect may be entitled to payment for them. Provided the instructions to prepare plans were properly given for an extent of work and number of houses not exceeding those with which the local authority had been authorised to proceed, and that the work was abandoned with his approval, the Minister is willing to consider whether these plans are of a character which would have been approved had they been submitted, and what payment can be allowed to be charged to the Housing Assisted Scheme Account in respect of fees for such plans.

G.H.M. No. 52. II.—Roads and Sewers.

B.—For sub-clauses (i) and (ii) of Clause 1 the following will be substituted:—

(i) If the preliminary scheme of roads, drains and sewers based on contour levels has been prepared, the proportion of the scale of fees, set out under the heading "B.—Roads and Sewers," in G.H.M. No. 31, to be paid shall be ... ... $\frac{1}{6}$

(ii) If, in addition, the roads have been pegged out and the levels taken for sections the additional proportion to be paid shall be $\frac{1}{6}$

(iii) If, in addition, the sections have been set up in accordance with the levels taken and embodied in the working drawings of roads and sewers the additional proportion to be paid shall be ... ... $\frac{1}{6}$

(iv) If, in addition, specifications and bills of quantities have been prepared, and all the work necessary for the purpose of obtaining tenders has been done, the additional proportion to be paid shall be ... $\frac{1}{6}$

Total proportion ... ... $\frac{5}{6}$

For Clause 2 the following will be substituted:—

In all cases of partially abandoned schemes the fees payable for the abandoned work shall be three-quarters of the fees indicated in (i), (ii), (iii) and (iv) of the preceding paragraph, according to the circumstances of the particular case.

G.H.M. No. 52. III.—House Plans.

C.—Sub-section (c) shall be amended as follows:—

In so far as plans were prepared prior to July, 1921, the fees shall be calculated on an assumed average cost of £700 for all types of houses. In the case of plans prepared in or after July, 1921, the fees shall be calculated upon the average price at which tenders were approved by the Minister for the types concerned during the month previous to that in which the scheme was abandoned, but in no case to exceed £700.

D.—For paragraph 3 there shall be substituted the following:—

3. (a) In the case of partially abandoned schemes the fees shall be a fraction of those payable in the case of schemes totally abandoned, according to the proportion of the work abandoned. The fees set out in paragraph 1, sub-paragraphs (i) or (ii) of Section III of G.H.M. No. 52, shall be multiplied by a fraction calculated as follows:—

(i) For the purpose of the calculation the work in any scheme of an architect or panel of architects shall not be deemed to include more than 250 houses; any cases involving more than that number shall be treated as if they had comprised 250 only.

(ii) The denominator of the fraction shall be the total number of houses for which plans were prepared by the architect or panel of architects on the definite instructions of the local authority, provided that plans for that number were approved by the Minister and they are shown on an approved large-scale lay-out plan, but limited by the maximum of 250 as above.

(iii) The numerator shall be the number by which the number of houses in the denominator as defined in (ii) exceeds the number of houses erected.

(b) In any partially abandoned scheme in connection with which an architect has prepared plans for a greater number of houses than 250, there shall be paid, in addition to the fees arrived at in accordance with (a) above, for any separate designs prepared for the abandoned portion, and not utilised for the portion erected, one half of the scale fees allowed for such designs under sub-paragraphs (i) and (ii), paragraph 1 of Part III of G.H.M. No. 52.

E.—The following additional clauses shall be added to G.H.M. No. 52, Part III:—

4. In all cases in which the Royal Institute of British Architects satisfies the Minister that an architect has been commissioned to carry out a housing scheme and has prepared plans approved by the Minister, but that no houses have been erected from his plans on the housing scheme of any local authority for which he has prepared plans, the following scale of payment for house plans will apply instead of that provided in G.H.M. No. 52, and the local authorities concerned will be notified by the Minister as to the amounts payable.

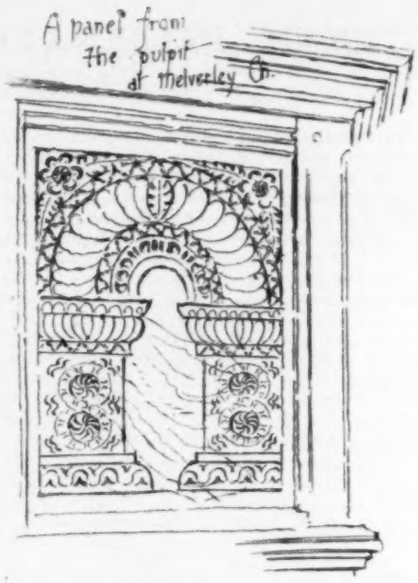
(a) For preliminary negotiations with the local authority and the Ministry, and for preparing sketch plans and all other general work incidental to the abandoned scheme, payment will be made to each architect on the following scale, based on the number of houses for which plans were prepared by him as defined and limited in paragraph D 3 (a) above.

For the—

First 12 houses the fee shall be		£10	per house.
Next 60	,, ,, ,,	£3	,,
,, 178	,, ,, ,,	£1	,,
250 maximum number.			

(b) If all the work necessary for obtaining tenders for houses has been completed, an additional fee of £26 will be paid for each separate design approved by the Minister for which working drawings have been made.

F.—In all cases before payment of fees, the local authority should be satisfied that the



architect has properly carried out the instructions of the Council and the requirements of the Ministry, and that all the work covered by the respective stages has been done.

G.—The foregoing terms and conditions will not apply in any cases where an agreement providing specifically for abandoned work has been made or where a final settlement has already been arrived at between the local authority and the architect prior to the date of this Memorandum. If the local authority have made any such agreement or final settlement without the approval of the Minister, the terms of the agreement should be notified to the Minister.

G.H.M. No. 52. General.

H.—The last paragraph of G.H.M. No. 52 shall not apply to abandoned work on house plans. Both for the purpose of calculating the fee and ascertaining the proportion abandoned, the work of the individual architect or panel of architects for each local authority shall be taken to be a scheme.

Supplementary.

I.—Travelling Expenses:—

In Memorandum to Housing Authorities 51/D, reasonable travelling expenses are allowed to an architect in respect of journeys over 25 miles from his office. In cases where, although the journeys may be less than 25 miles from his office, an architect is involved in unusual expense owing to the site or sites being situated more than three miles from a railway station, and not served by any other regular public means of conveyance, the Minister will be prepared to allow as a charge to the Housing (Assisted Scheme) Account the reasonable out-of-pocket costs necessarily incurred in travelling from the nearest railway station to the site.

K.—In cases where no bills of quantities have been provided and the architect has been required to supply the necessary extra copies of drawings and specifications from which to obtain tenders, allowance shall be made for the reasonable out-of-pocket charges incurred for the purpose.

L.—Owing to the doubts which have existed as to the application of the provisions of G.H.M. Nos. 4 and 31 in regard to abandoned work, payments to architects have, in some cases, been delayed. In view of the further information contained in this Memorandum, local authorities should make prompt settlement, or substantial payments on account, in respect of the amounts payable to their architect for professional services rendered.

Copies of the memorandum are obtainable from H.M. Stationery Office, price 1d. net each.

THE ROYAL SANITARY INSTITUTE.

CONGRESS AT BOURNEMOUTH.—II.

The Congresses of the Royal Sanitary Institute have always much of interest to those concerned with the many subjects which the members have at heart, and they are always very well attended, but no doubt the pleasant south-coast resort of Bournemouth, where it was held this year, had something to do with the exceptionally large number present from July 24 to 29. The papers read before the various sections were well up to the high standard one has become accustomed to expect at these gatherings, and the excursions and visits to places of interest combined to make the meeting a very successful one.

In our last issue we gave abstracts of some of the papers read early in the week which touched on matters of interest to our readers, but the most important section from the point of view of the architect and builder—that of Engineering and Architecture—held its meetings on Thursday and Friday, and, as is usual at the meetings of this section, many interesting papers were read and discussed.

SECTION OF ENGINEERING AND ARCHITECTURE.

Presidential Address.

Sir Henry Tanner, C.B., F.R.I.B.A., occupied the position of President of this section, and in the course of his presidential address, referring to the progress of reinforced concrete construction during the past few years, said when it was remembered that reinforced concrete was only introduced into this country 25 years ago it would be realised what that extension meant. Only one system was then introduced, but now the persons engaged in that form of construction were very numerous, while there were many building firms competent to carry out works of that description. In London regulations had been prepared and approved, and those probably formed the basis of such building generally in this country, but before those regulations were approved in 1909 it was not possible to construct floors unless the buildings or constructions were erected by bodies who were exempt from control or local authorities. The increase in the cost of the materials required and particularly of the timber needed for moulds, had during the later period of the war and since prevented progress, but it was found eminently suitable for buildings required for purposes connected with the war. Experience, however, appeared to show that while it was economical for general purposes of construction, it was not altogether suitable for walling, bricks being still the most ready and convenient material for such purposes. For engineering works, however, it had largely taken the place of other forms of construction, being found economical in first cost, very lasting notwithstanding the limitation in the terms allowed for repayment of loans, and repairs were practically nil.

On the subject of research, he said the cessation of the activities of the British Fire Prevention Committee was in his opinion a great misfortune. That was one phase of research, but there were other and continually recurring examples where it was required in connection with materials, construction, etc., needed for building and engineering. One would have thought the Fire Insurance Committee would have supported such an institution as the British Fire Prevention Committee, but although the companies' surveyors and others frequently attended the testing they gave no help. He understood, however, that the companies were meditating the establishment of a station in the neighbourhood of Manchester. The Government Research Department had acquired a site and provided a building with some appliances, but how far that would meet the requirements of the building profession it was impossible to say. The Engineering Standardising Committee had done much in some directions. What was wanted, however, was a central and independent institution not relying on casual subscribers but to which manufacturers and others could submit their productions for test at reasonable charges, the results being published and easily obtainable at moderate cost. Such institutions existed in America, and it seemed extraordinary that we could not have similar State help in this country for so large and important an industry as building.

Referring to building by-laws, he said all by-laws and building regulations became antiquated in course of time, and should be revised at intervals. The model by-laws issued from the Ministry of Health should be brought up to date at short intervals not exceeding 10 years, and such modifications as might be introduced should be compulsorily adopted wherever the model by-laws were in operation, as some had been in use without change for perhaps 50 years. The same applied with greater force to the London Building Acts and the regulations made thereunder. Drastic changes had been made in the manufacture of cement, and yet the Act still contained the same requirements as 60 years ago or more. Steel had become standardised and could be thoroughly relied upon, and yet a safety factor of 4 was still demanded in building work. In these times of high costs, demands under building Acts and by-laws should be relaxed so far as was reasonably safe, and they should be made with the belief that they would be acted upon and not ignored. For some considerable time past there had been an increasing and strong feeling that there should be some relaxation in the by-laws under the London Building Acts relating to the height and capacity of buildings. The Acts provided that ordinary buildings should not exceed 80 ft. in height together with two stories in the roof. In practice buildings had been approved having a height of 110 ft. without any story in the roof, but it was felt that in congested areas round important centres that height might well be increased to some extent, even to 150 ft. with two stories in the roof. A short time ago that question was brought before a general meeting of the Royal Institute of British Architects and there was a large majority against change, but at the recent elections the mover of the rejection of any change had failed to gain re-election, while the supporters of the change had found seats. In those circumstances it would seem that the late Council did not represent the general feeling.

There was, however, another aspect of the case. The by-laws limited the height of buildings for the sale, manufacture and storage of non-inflammable goods to a height of 60 ft. to the level of the top floor (recently varied to 80 ft. to the underside of the ceiling of the top floor), and at the same time restricted the area of any floor to 20,000 sup. ft., increased, however, to 40,000 sup. ft. with a cap not exceeding 500,000 cub. ft. in any single compartment. At the same time it was insisted that the buildings should be fire-resisting and furnished with all kinds of fire-fighting apparatus, which was not the case in ordinary buildings which were allowed to be carried up some 20 or 30 ft. higher. That did not seem a reasonable proposition, and, having regard to the superior character of such building from a fire-resisting point of view, the time had certainly arrived when there should be no differentiation in the different classes of buildings; if it were possible for the London Fire Brigade to deal with fires at the top of buildings of an office or other ordinary class there should not be any greater difficulty in the second class. Having regard to the concessions recently made, he still hoped that that distinction as to height might be withdrawn.

BUILDING BY-LAWS.

Mr. H. D. Searles-Wood, F.R.I.B.A., then opened a discussion on the question of building by-laws. He had, he said, been asked to open a discussion on "The Continuation of War By-Laws of Buildings," but he would rather have discussed the question of a building code for the whole of the United Kingdom. It seemed to him that the time had come when such a complication of the Acts of Parliament which affected building—thirty-five in all—could usefully be considered. The present model by-laws were drafted on buildings in stone and brick, and the relaxation of those by-laws to allow of other forms of construction was largely the purpose of the war by-laws, to allow, for instance of the use of such materials as hollow blocks or slabs of terra-cotta, reinforced brickwork, hollow walls, half-timber walls, or other walls filled in with incombustible materials when necessary. The ordinary clauses for the laying out of roads did not permit of the class of roads which had been designed on some garden cities, neither did they differentiate between the type of paving needed for various grades of roads or for exceptional arrangements which were demanded in certain cases by the configuration of the ground. In a few words, it might be said that the model by-laws were voluminous without being comprehensive and were too restricted; they dealt with details rather than with principles.

The Departmental Committee on Building By-Laws reported in 1918 against a single code of by-laws for adoption in all districts subject to necessary local variations to meet, for example, differences of climate and with further variations according to the nature and density of the development. Among the anomalies of the present system were the prohibitions by Act of Parliament to build back-to-back houses for the working-classes or to build a living-room above a privy. By-laws could have inspired their prohibition, but statutory prohibition was necessary because the erection of back-to-back houses was allowed by local Acts which in certain towns had taken the place of by-laws. By-laws might, and frequently did, require open spaces to be left in front of every building, but if a property owner set back his building farther than the by-laws made compulsory the Public Health (Buildings in Streets) Act gave to the local authority, independently of any by-law, a discretionary power to prohibit on the next plot a building any nearer to the street than the buildings already erected there.

The paper next on the agenda to the discussion on building by-laws was "Open Spaces in the Rear of Small Houses," by Mr. Manning Robertson, F.R.A.S., A.R.I.B.A., and as this largely dealt with the question of by-laws it was, on the suggestion of the Chairman, read next and discussed together with the first subject.

Open Spaces at the Rear of Small Houses.

In the course of his paper, Mr. Manning Robertson said in examining pre-war housing, leaving out of account the question of design, almost universally the following characteristic defects were found:—(1) The frontage was too narrow; (2) light was obscured from the main back windows by an extension of the building at the rear.

Those two faults were well known, but there was nothing to prevent them from being perpetuated in the future. Number two followed as a direct consequence of number one, as could be seen on Fig. A, which illustrated the inevitable degradation of a sound plan when it was subjected to the squeezing process with which they were too familiar. The areas of the rooms were the same for the 15 ft. front as for the 21 ft. front, but when the frontage was reduced the lighting of the living room was sacrificed, and the outlook became dreary and depressing in the extreme.

It was impossible to prevent the erection of narrow-fronted houses by any stipulation as to a minimum frontage. He suggested that the problem could best be tackled in two ways simultaneously: first, by reducing compulsory development charges to a minimum; second, by getting power to secure adequate lighting, and

in each of these directions Parliament should be asked to extend the requisite powers. The first remedy was persuasive, the second obligatory, but both would tend towards the discontinuance of the evils under consideration.

It had for many years been the custom in this country to place two or more "working-class" houses where there was only adequate room for one, or four where there was only proper space for three, and, while it could not be said that by-laws or other regulations were entirely responsible for the practice of overcrowding, by which term he denoted excessive density, it was certain that they had, on the one hand, indirectly fostered it and, on the other, had not directly prevented it. It might be contended that he exaggerated when he said that they had habitually overcrowded houses in the past; in reply, he pointed to Fig. A, and asked whether 90 per cent. of small Victorian houses were not of the degraded shape shown on Plan 3. They were that shape because the frontage was cramped, and because it was therefore necessary to build the scullery and offices outside the main building into the back extension, and the frontage was cramped because too many houses were placed along a given length of road, and that meant overcrowding. They had already noted the main objections to Plan 3, and it could not be denied that by-laws which permitted the erection of such dwellings in hundreds of thousands had proved themselves inadequate to secure healthy and satisfactory conditions. The limitation of the number of houses to the acre would get over the difficulty, and was a necessity in any town-planning scheme, but such a restriction could hardly come within the scope of the by-laws, and it was first in the direction of relaxing over-stringent demands in road-making that they must look for help.

The question of the width and construction of streets and carriageways was exceedingly complex. A thorough revision of the existing system was necessary, and to this end Parliament should be asked to extend adequate powers. The main trouble arose, not when new streets were made, but when local authorities made excessive demands on taking them over, and owing to the uncertainty on the part of the developing owner as to what he would be expected to spend at that stage. From the standpoint of public health, they should aim at the elimination of every unnecessary requirement as to width and construction of carriageways and streets generally. The saving of development charges which could be secured by a judicious and comprehensive grading of streets to suit the traffic they would be called upon to carry would be very great, and would help materially to extend the frontage of each house. The total width across the road between the fronts of houses should be increased; there should be a more thorough supervision of building lines; forecourts and grass or gravel margins should supplement the reduced carriageways. In referring to lighter roads he spoke, of course, of residential roads, *culs-de-sac*, and the like; arterial roads should be sufficiently wide and solid to cope with their traffic, and should be laid out to allow room for widening, should that become desirable at a future date. The question of roads had an intimate bearing on public health because every penny unnecessarily spent on roads was a penny less to spend on necessary frontage. The lack of elementary town-planning principles, especially in connection with transport, had contributed to the practice of treating minor roads as potential main thoroughfares; all roads had to be made of a width and substance to permit, if necessary, of their use as main roads. The waste of resources involved in such haphazard methods was obvious, and was easily avoided by the exercise of a little forethought.

With regard to defect No. 2, he proposed to offer a definite solution. First, the Public Health Act of 1875, which gave power to secure "a free circulation of air," must be amended to include light, and the attention of the Minister of Health should be drawn to the urgency of obtaining such amendment. Under the law as it stood it was doubtful whether windows could be legally demanded at all, and whether holes in the wall of dark louvres would not meet all strictly legal requirements.

The first possibility would be to include a proviso in the by-laws to the effect that no extension to the rear of any dwelling-house should be so constructed as to interfere materially with the light entering any living-room or bedroom. He was dubious about that proposal, because the word "materially" would be interpreted in different ways; some might consider that any extension to the rear was inadmissible, while others might allow a serious obstacle to light on the grounds that the obstruction was not really material, and this difference of interpretation must lead to confusion, and the rule would sometimes fail in its purpose. One would prefer a simple and definite requirement, binding upon everyone who built a dwelling-house; one that would be applicable to all houses and in all districts. The difficulties of devising a satisfactory rule of this kind were that it must apply equally to all houses whether detached or in terraces; it must not hamper good design nor become illogical when applied to large houses; neither must the action of "A" in building a house prejudice the position of "B" if he wished to build a second house adjoining "A"; in other words, no individual's action should affect the rights of a neighbour.

His proposal, which he thought met those difficulties, was as follows:—Referring to Fig. B, it was now stipulated that the distances A—B and C—B must each be at least 15 ft. (although the distance C—B, for obvious reasons, was usually a good deal more). In addition to the two requirements as to A—B and C—B, a third should be inserted to the effect that when the light to any ground floor living-room or bedroom depended upon a window in the back wall C, the distance D—E should not be less than 12 ft. He incorporated in that rule an exemption for walls projecting less than 4 ft., in order to allow every possible freedom in design. In appropriate language, he proposed the following:—"Where any living-room or bedroom situated on the ground floor depended for its light upon a window in any rear wall, the width of the open space adjoining such window measured parallel to the window from any wall rising above the level of the sill, and projecting more than 4 ft. from the plane of the face of the wall containing the window to any other such wall, and to the boundary of any lands or premises adjoining the site, shall not be less in any part than 12 ft." That rule precluded the back extension where it did harm, but legitimate use could still be made of that feature, because the ill-lighted back wall could be used for windows of minor importance. It would also be noted that when living-rooms or bedrooms were adequately lighted from elsewhere, as in through rooms, there was no restriction as to extending the building to the rear.

Discussion.

MR. A. SAXON SNELL, F.R.I.B.A., suggested that the width of the open space at the back of houses might be proportional to the depth of the projection.

MR. W. R. DAVIDGE, F.R.I.B.A., after expressing his appreciation of Mr. Manning Robertson's paper, said he thought they would all feel that there had been enough of narrow-fronted houses, and he thought the suggested new rule would meet the case. Mr. Saxon Snell's proposal might be incorporated in a simple by-law to apply to the whole country. One way to deal with unsatisfactory housing was to have a competent architect for every house built. In Bombay there was a rule in force that nobody could submit a plan to the municipality without he held a licence for the municipality. That licence had to be renewed by the municipality every year, and thereby ensured that everybody who submitted a plan was competent to design it. That system worked very well in Bombay and had excellent results, but there might be drawbacks to its application in this country.

MR. G. L. PEPLER (Ministry of Health) said the question of back projections might be dealt with by fixing an angle of light from the windows to the next building and the intervals between buildings. If the back projections were done away with and the windows placed in the side

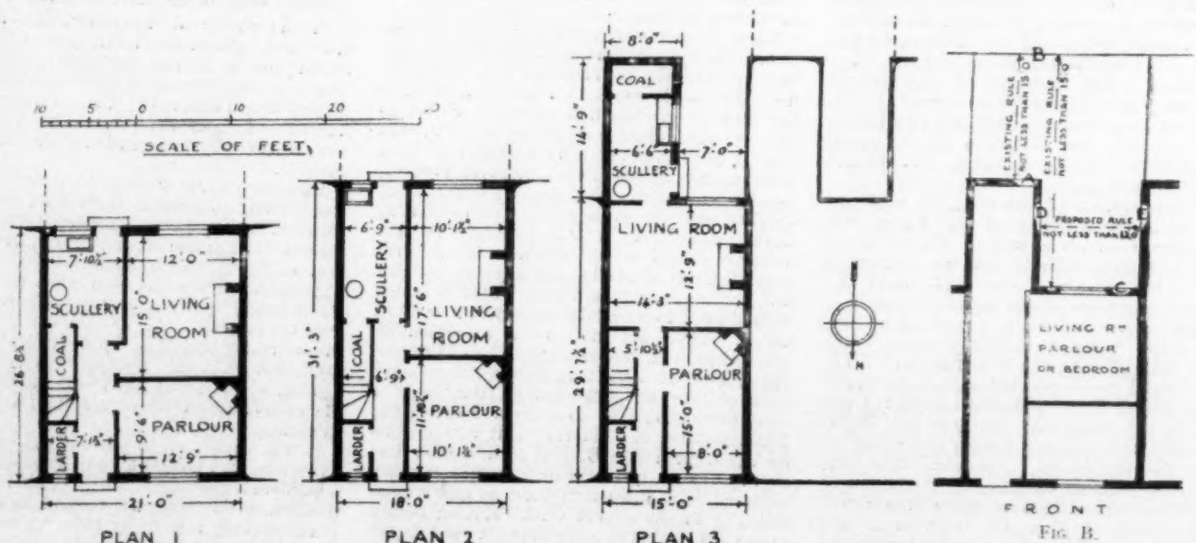


FIG. A. FIG. B.

Open Spaces at the Rear of Small Houses. (*See p.* 173)

of the house there might be just as much obstruction from the side of the next house if the space between them were not sufficient to allow the sun to reach the windows. If there were windows at the side of a house an interval between that wall and the next house should be prescribed of such a width that the windows should receive a reasonable amount of light.

DR. S. C. LAWRENCE (late Medical Officer of Health for Edmonton) said there was a by-law in Edmonton which provided that all new buildings should be certified as fit for human habitation by the Medical Officer of Health. In practice the operation of that by-law was found to be most effective, and so long as it was carried out in a common-sense and not too autocratic a manner it was productive of a great deal of good. The architect, the Borough Engineer, and the Medical Officer of Health worked together in the matter, and in order that there should be no hardship caused by a certificate being refused by the Medical Officer of Health when a building was completed, or by the Medical Officer requiring certain alterations which could have been made much more cheaply in the early stages of the building, the Medical Officer saw the plans before the building was commenced.

The existing by-laws relating to drains, said another speaker, acted very unfairly, for it seemed to be a waste to have to lay concrete under drains in every case.

Another speaker said he thought 36 ft. should be the minimum width of roads, and for roads likely to become of more importance in the future the width should be very much more than 36 ft. Persons developing land should be compelled to give adequate space to each house, but the extra expense entailed should not be at the cost of the roads. In connection with the width of frontages, it was very desirable to limit the extent of terraces. If the worst type of house described by Mr. Manning Robertson were limited to blocks of four the injurious effect would be very much reduced; the harm resulted from the length of the terrace rather than from the planning of the individual house.

MR. T. PEIRSON FRANK (Plymouth) expressed the opinion that there should be a by-law fixing a minimum size for a living-room; he had recently seen plans submitted which allowed only 60 super ft. for the living-room. In connection with extensions at the rear of new buildings or additions at the rear of existing buildings, the Plymouth Town Council always required that the consent of the adjoining owners be obtained before the plans were passed. The root of the whole matter of the width of roads was the Rent Restriction Act, for it was not profitable to build small houses, and if new houses were to be erected the local authority had to meet the builders in some way, usually by allowing cheap roads to be constructed. On housing schemes the Ministry of Health required a width of 13 ft. only, but at Plymouth the refuse-collection carts were nearly 7 ft. 6 in. wide, so that on such a road they would not be able to pass each other. He did not see why a person building houses should be required to pay the whole cost of roads on his estate if the local authority required them to be of extra width, and he suggested that the case might be met by a charge of a fixed sum per foot frontage.

MR. P. JOHNS (Borough Surveyor, Maidenhead) said he had every sympathy with the movement to obtain a single set of by-laws for the whole of the country. He strongly recommended the broad-fronted house as against the narrow-fronted house; houses with wide frontages had been built on the Maidenhead housing schemes, and he had heard nothing but praise from the tenants. On those schemes the roads were 30 ft. wide, although by no possibility could they become arterial roads. A 30 ft. road, combined with a 70 ft. interval between the fronts of the houses, was amply sufficient for all purposes. The 30 ft. roadway had a carriageway of 18 ft. and two footpaths of 6 ft. each, and the houses had front gardens 20 ft. long. With the use of concrete kerbs made on a block-making machine such roads could be built fairly cheaply.

THE CHAIRMAN said the late Medical Officer of Health for Edmonton seemed to want medical officers to occupy very autocratic positions. With regard to roads, it seemed unnecessary to spend a lot of money on side roads.

MR. MANNING ROBERTSON, replying to the discussion, said the suggestion that the width of the open space at the back of a house might be proportional to the depth of the projection would not work in all cases. In the case of a large house with two side wings projecting towards the rear it would not be reasonable to object to the existence of a window to the room in the centre of the rear of the house, although it might be in a recess between wings 30 ft. deep. With regard to the proposal to stipulate a definite angle of light for a window, how could one lay down regulations for an angle of light when under the present regulations it was possible to build a house with no windows at all? On the suggestion that all roads should be built wider than at present, he said such a proposal was unreasonable. To make *culs-de-sac* and side roads of the same width and strength as main roads was carrying the thing to an absurdity.

The proposed new rule by Mr. Manning Robertson was put to the meeting at the next sitting in the form of a recommendation to the Ministry of Health, and carried unanimously.

HOSPITAL PLANNING.

"Sanitary Annexes to Ward Blocks" was the title of a paper by MR. A. SAXON SNELL, F.R.I.B.A., who, in the course of his remarks, said until recent years it was usual to place the sanitary conveniences in towers built out at the lower or open ends of the ward blocks, with disconnecting cross-ventilated lobbies. The disconnection was efficient if the windows of the lobbies were kept more or less open; but the position of the towers overshadowed beds at the end of the wards and shut out valuable light and air. It was more usual now to have one tower only, placed at the upper or closed end of the ward, and so arranged as to avoid overshadowing the separation wards and day rooms. It was thus under better control and supervision. Even so it was still an excrescence, and comparatively costly to build; and some architects, therefore, had boldly eliminated it by building the sanitary offices among the ward annexes (separation wards, scullery, &c.). An intervening lobby lighted and ventilated by a window was regarded as sufficient cut-off from the approach corridor to the wards. It was, however, open to doubt because with a strong wind blowing against the window air would probably pass through into the corridor, drawing with it the foul air from the w.c., &c. It would seem better to provide means of through ventilation, either by opposite windows or by a window at one end of the lobby and a ceiling ventilator at the other opening into the air. The essential point was that the w.c.'s were placed on one side of the corridor and the sinkroom exactly opposite on the other side; both compartments and that portion of corridor between them were kept low—not more than 8 ft.—so as to provide a blow-through above them, into which the ceiling ventilators opened.

HEALTH EXHIBITION.

The Health Exhibition, held at the Drill Hall during the Congress, contained much of interest to the delegates. Many of the exhibits were of interest purely from the medical point of view, but there was also much to attract those concerned with the more practical side of the health of the community.

The "Ejeculator" hot-water fitting, which is claimed to save 20 per cent. of the fuel bill, was shown by Messrs. A. R. Watson & Co., of Bembridge, Isle of Wight; the special feature of this apparatus is that it circulates the hot water at the top part of the tank at a faster rate than at the bottom, thereby greatly increasing the difference in temperature between the top and bottom water.

A good selection of the well-known "Leamington" ranges, grates and interior fires, and the "Imperial" gas fires, cookers and heaters attracted considerable attention to the stand of Messrs. Sidney Flavel & Co., Ltd., of Eagle Foundry, Leamington, whose products have now been on the market for over a hundred years.

Messrs. Sharp, Jones & Co., of Parkstone, Dorset, showed a selection of their sewer tubes and salt-glazed stoneware, a special display being made of their well-known concrete sewer pipes.

One of the largest displays of sanitary goods was that of Messrs. Doulton & Co., Ltd., of Lambeth, who, in addition to a good selection of baths, &c., showed some attractive lavatory suites.

The stand of Messrs. Rippers, Ltd., of Castle Hedingham, Leeds, was well suited to the occasion, and comprised joinery and wood fittings, such as doors, sideboards, stairs, chairs, &c., specially made for hospital use.

The well-known "Cafferata" slabs were shown to advantage by Messrs. Broad & Co., Ltd., of No. 4, South Wharf, Paddington, W.2. These slabs, which are now being extensively used, are formed of pure plaster reinforced with reeds, and are made in sizes 3 ft. by 1 ft., for easy transportation. The slabs are tongued and grooved to simplify erection on the site.

Among the awards of the judges are the following:—*Silver Medals.*—Carter & Co., Ltd., Poole: Glazed tiles and mosaics. Dominion Machinery Co., Ltd., Halifax: "Elliot" woodworker. Doulton & Co., Ltd., Lambeth: "London" waste preventer valve. William E. Farrer, Ltd., Birmingham: Automatic sewage distributor. George Jennings, Parkstone: Salt-glazed stoneware. Sharp, Jones & Co., Ltd., Parkstone: Rock-concrete sewer manhole; salt-glazed stoneware (two medals). *Bronze Medals.*—Doulton & Co., Ltd., Lambeth: "Lambeth" sinks; porcelain filter with glazed joint; drinking bubbling fountain with hooded jet (three medals). William E. Farrer, Ltd., Birmingham: double trough lavatory; non-corrodible flushing cistern (two medals). Geo. Jennings, Parkstone: Combined yard and tidal trap. Lacre Motor Car Co., Ltd.: 30 h.p. "O" chassis with special body and tipping gear. Meldrums, Ltd., Timperley: Sack portable steam disinfector.

STEEL GIRDER BRIDGES

THE British Engineering Standards Association has just issued as one publication Parts 1 and 2 of the British Standard Specification for Railway and Highway Girder Bridges (Report No. 153, 1922). The preparation of a British Standard Specification was undertaken by the Association primarily at the request of its China Local Committee, the object being to provide designers and manufacturers with definite lines upon which to work so as to obtain a uniform result as far as strength and utility are concerned whilst leaving the question of type open to the unfettered discretion of the engineer. The principal structural steel firms in this country also approached the Association with a view to a British Standard Specification for workmanship in the construction of girder bridges being drawn up.

The present document embodies the published results of the work as far as it has proceeded, and other portions of the Specification will be issued from time to time as completed. Part 1 of the Report covers the materials to be employed, which are required to be in accordance with one or other of the existing British Standard Specifications; these latter are included as appendices, making the present document complete in itself, an arrangement which should be of considerable assistance to engineers and purchasers abroad. Part 2 of the Report deals with workmanship, including, amongst other items, clauses dealing with straightening, planing and shearing, drilling, punching and reaming rivets and riveting bolts and nuts, temporary erection at contractor's works, painting, measurement and packing and marking for export. Copies of the report (price 1s. 2d., post free) may be obtained from the Secretary of the Association, 28, Victoria-street, S.W.1.

THE WEEK IN PARLIAMENT.

WESTMINSTER, *Wednesday.*

Tenders and Prices.

Sir A. Mond informed Sir R. Clough that during the current year 144 local authorities in various parts of the country had been authorised to obtain tenders covering 4,169 houses. The maximum and minimum price per house approved during the year was £696 and £299 respectively; the highest price sanctioned since the operation of the State-assisted scheme was £1,240. 1,432 houses had not yet been definitely allocated under the scheme.

Housing Surveys.

Mr. T. Thomson asked the Minister of Health whether he was aware that in the publication *Housing*, the official organ of the Ministry of Health's housing department, issued on May 10, 1920, it was stated that, according to the survey made by local authorities under the provisions of the Housing Act, 1919, their gross needs for houses were 851,885 and their net needs 796,514; and whether any subsequent survey had been made and, if so, with what result.

Sir A. Mond said he was aware of those figures. They were given on a preliminary examination of the survey and they must be read in the light of the reservations contained in the covering article in the publication referred to. As he had previously stated, he did not think there would be any advantage in calling for a further survey by local authorities at the present time.

Government Policy.

Mr. T. Thomson asked the Minister of Health whether he was aware that, notwithstanding the promise to the House by the Prime Minister on July 21, 1921, that not a single house less would be built in consequence of the change in the Government's housing policy which he then announced, there had been a reduction in the number of men employed in building houses under assisted schemes from 148,026 in July, 1921, to 66,651 in June, 1922; and what further steps did the Government propose to take to fulfil their promise that no fewer houses would be built as the result of their changed policy.

Sir A. Mond said he was aware of the figures quoted in the first part of the question. As regarded the second part, he could add nothing at present to the statements on housing policy which he had made to the House on previous occasions.

Rents of State Houses.

Mr. L. Lyle asked whether any local authorities, other than Northampton, were now building houses without Government subsidy; and what was the average rent in each of these cases, including Northampton, which would be charged to secure an economic return.

Sir A. Mond said he was aware that a number of local authorities, in addition to Northampton, were at present considering the question of erecting houses without financial assistance from the Government, and he had expressed his readiness to give favourable consideration to such proposals. Definite particulars as to the estimated cost of the houses and the rents proposed to be charged were not yet available.

Replacement of Uninhabitable Houses.

Major Barnes asked the total number of houses required to replace other houses which, although they could not at present be regarded as unfit for human habitation, fell definitely below a reasonable standard, as given by the local authorities under Section II. (e) of the Form of Survey under The Housing, Town Planning, etc., Act, 1919.

Sir A. Mond said the total number of houses estimated by local authorities as being required under the Section of the Survey referred to was 104,442.

HOUSING AND TOWN-PLANNING NOTES.

Town-Planning in Manchester.

The Manchester and District Joint Town-Planning Advisory Committee, which is representative of over 70 local authorities adjacent to Manchester, proposes holding in the Town Hall, Manchester, from October 9 to 14 next (inclusive), an exhibition of maps, drawings, diagrams, and models illustrating town-planning work, civic and regional development, public services, etc. A series of maps is now being prepared by the Joint Committee for the area within a 15 miles radius of Manchester, indicating traffic movement, gas, water, and electricity areas and supplies, drainage areas, town-planning schemes, parks and open spaces, unhealthy areas, rainfall and population maps, etc., and it is also intended to exhibit maps and models from many towns in various parts of the country. Efforts are also being made to obtain a series of maps from American and continental cities.

During the exhibition, which is to be opened by the Earl of Derby, a series of addresses will be given on the various aspects of town development, reconstruction, arterial roads, and allied subjects. The exhibition will be open to the public free of charge.

Birmingham Public Works Committee Housing Scheme.

MESSRS. DOUGLAS G. TANNER AND ARTHUR L. HORSBURGH, Architects.

[These houses are being erected for the Birmingham Public Works Committee. The builders are Messrs. W. Higgins, Ltd., of Northampton, and the contract price is £399 per house, including paths, drains, and fences. The work is being carried out in red common bricks with brindle brick plinth, chimneys, and gables, and roofed with green slates. Generally blocks of eight are used, but to avoid monotony in the lay-out and to effect economies blocks of four have been arranged for. The following accommodation is given:—Parlour (148 sup. ft.), living-room (165 sup. ft.), scullery (8 ft. by 6 ft.), three bedrooms (134 sup. ft., 114 sup. ft., and 83 sup. ft.), bathroom on first floor (h. and c.) and lavatory basin, coals, larder, &c. Hot water to the bath, lavatory basin and sink is provided by a back boiler in the living-room fireplace. A gas copper is also provided in the scullery. Each house has a good garden and a separate back entrance. The architects are Messrs. Douglas G. Tanner and Arthur L. Horsburgh, of Livery-street, Birmingham.]

War Memorial to the Officers and Men of the Training Ship "Exmouth."

Designed and Executed by MR. H. PARKER.

Hitchin Housing Scheme.

The following sub-contractors were engaged on the Bethel-lane housing scheme of the Hitchin Urban District Council, illustrated in our last issue:—Road-beds and sewers, Mr. Chas. Ball, Letchworth; road finishing and footpaths, Mr. G. H. Greasley, Leicester. The erection of the houses was carried out by Messrs. Willmott & Sons, of Hitchin, Mr. Walter Millard was the architect, Mr. F. Saunders, of Staple Inn, quantity surveyor, and Mr. C. A. Wingate acted as clerk of works.

Dagenham Housing Scheme.

Mr. Howard Martin, Official Arbitrator, sitting at 5, Old Palace-yard, Westminster, recently heard a claim by Messrs. Samuel Williams & Sons, Ltd., against the London County Council, concerning the Council's compulsory acquisition of 85 acres, 22 poles of land and buildings at Broad-street, Church End-lane and Ripple-road, Dagenham, for housing purposes.

The Official Arbitrator has since issued his award as follows:—"That the acquiring authority is to pay the claimants the sum of £10,180 as compensation, and I order the acquiring authority to pay the hearing fee, and the claimants to contribute £90 towards the costs of the acquiring authority."

Land for New Road.

Mr. Howard Martin, Official Arbitrator, sitting at Westminster, heard a claim by Mr. Frank Bastable against the Middlesex County Council, concerning the Council's compulsory acquisition of part of the Woodlands Estate, Hendon, across which the new circular road cuts through 59 plots at an angle.

The Official Arbitrator has since issued his award as follows:—". . . it being agreed that the acquiring authority is to lay a sewer in the proposed diversion of the intended road through the land to be acquired, according to the plans produced at the hearing, to the satisfaction of the local authority, and to close and seal a sewer already existing in the said land, and to maintain the slopes on the land to be acquired abutting on the road now in the course of construction, I award that the acquiring authority is to pay the claimant the sum of £5,350 as compensation, and I order the acquiring authority to pay the hearing fee and the claimant to contribute £52 10s. towards the costs of the acquiring authority."

THE BUILDING TRADE.

LANDLORD'S PROPERTY TAX.

A CASE of some importance to tenants has recently been decided in Moore and Others *v.* Drughorn (*Weekly Notes*, July 22). The plaintiffs were the landlords of certain premises in Cleveland-mews, Hyde Park, and the defendant, in 1918, had proposed to rent the premises at a rent of £85, the landlords undertaking first to put the premises into repair. It had subsequently proved that the repairs would cost more than £85, and it had then been agreed that the tenant should do the repairs himself, paying no rent for the first year. In January, 1919, an indenture had been executed granting the defendant a lease for 14 years from Christmas, 1918, at a peppercorn rent for the first year and thereafter at £85 per annum, the tenant paying a further sum to cover the insurance of the premises. The first rent, therefore, in money became payable on Lady Day, 1920. The Income Tax payable in respect of the premises under Schedule A was £25 5s. a year, and the first instalment in respect of the financial year April 5, 1919, to April 5, 1920, £11 12s. 6d., became payable January 1, 1920.

The defendant paid this and claimed to deduct it from the next quarter's rent, £21 5s., due at Lady Day under the provisions of Schedule A, No. VIII, to the Income Tax Act, 1918, which provides that "A tenant occupier of any lands, tenements, hereditaments or heritages who pays tax shall be entitled to deduct and retain in respect of the rent payable to the landlord for the time being . . . an amount representing the rate or rates of tax in force during the period during which the said rent was accruing due for every twenty shillings thereof, the said deduction to be made out of the first payment thereafter made on account of rent."

The defendant similarly claimed to deduct the second instalment of the tax from the quarter's rent due at midsummer, and, in each case, had tendered the rent less the tax. The plaintiffs brought this action for three quarters' rent and for £1 4s. a quarter for insurance. The defendant pleaded he was entitled to deduct the tax under the above provision, but, even if not entitled under that provision, he counterclaimed for the amount of the tax as it was a landlord's tax which the plaintiffs were liable to pay and which he had by law been compelled to pay on their behalf.

The Court below had regarded the agreement between the parties, and had treated the amount payable by the defendant in the first year for repair as "rent," and had given judgment for the defendant. The Court of Appeal has now set this judgment aside, holding that Income Tax under Schedule A, although a tax on property, does not necessarily fall upon the landlord; it is based not upon the rent but upon the annual value, which may be more than the rent, and to the extent by which the annual value exceeds the rent it falls upon the tenant, and the Court held it could only regard the lease and could not go outside it and consider the negotiations which led up to it. Under this lease during the period Lady Day, 1919, to Christmas no money rent being payable at all the tax fell entirely on the tenant. The tenant was, therefore, not entitled under Rule 1 of No. VIII to deduct from the rent sued for any portion of the tax for the financial year 1919–20 except that paid in respect of the Lady Day quarter, 1920, when a money rent became payable to the landlord. Judgment was given for the plaintiffs for £59 2s. 9d., less one quarter's tax, £5 16s. 3d.

In the case Hill and Others *v.* Kirshenstein (*The Builder*, July 30, 1920) it was held that the person paying the landlord's property tax must deduct it from the next payment of rent, and difficult questions arise owing to the tax being an annual payment whilst rent is paid as a rule quarterly and the amount of the tax in the pound being so high that it may easily exceed one or more quarter's rent. The Revenue Acts are drawn in such terms that they can rarely be interpreted with any certainty except by the House of Lords, but surely it is time these matters concerning everyday life were dealt with in a simple Act which would enable landlords and tenants clearly to apprehend their position in regard to what should be a simple matter, and not by reference to odd sections contained in long Acts of Parliament relating to finance extending back for many years.

TRADE CO-OPERATION.

BY a curious coincidence the announcement of Lord Leverhulme of a scheme to be inaugurated by Lever Brothers for the purpose of providing life insurance and also relief from unemployment appeared in the same issue of *The Times* which contained a report of a case in which certain members of trade unions were seeking injunctions against the unions restraining them from expelling them from membership for having participated in certain schemes of this firm, which the unions contended constituted a breach of one of their rules.

The House of Lords has now affirmed the decision of the Court of Appeal, which we noted July 8, 1921, holding that the plaintiffs had committed no breach of the trade union rule, and that they were entitled to an injunction against the unions restraining the unions from expelling them. We refer to this juxtaposition of the two reports in the same paper for the purpose of calling attention to the difficulties which attend the drawing together of the interests of employers and employees by the attitude adopted by some trade unions, at least, towards this question.

Lord Leverhulme has been an advocate all his life of co-partnership schemes, and his firm has always endeavoured to ally the interests of employer and employed. His firm has been the pioneer of this movement. The unions consider that it is important for their objects to secure complete independence to their members as they consider any tie between their members and the employers interferes with the independence of action of the trade unions. In the Court below we believe counsel for the defendant unions put it crudely that co-partnership schemes were objected to because they involved loyalty to the employers. Lord Leverhulme, in an interesting speech announcing his scheme, referred to the advance made by science in the last 100 years, but complained that human nature was lagging behind, and the reason is not far to seek. Science is concerned with perfect elements, whereas humanity is most imperfect. Lord Leverhulme has been unceasing in his efforts to draw capital and labour together, and we trust this new scheme will be a success. Never was industrial peace more necessary to the world than at the present moment, and the way to prosperity lies in encouraging a community of interest between employers and employed. What is the real obstacle to the accomplishment of a unity of interests? It surely is the fact that the strike is the only effective weapon of the unions, and that that weapon cannot be used if the men have any community of interest with their employers' business. As after the recent war an effort has been made to rule out some forms of lethal warfare, such as poison gas, so in the industrial world some effort should be made to substitute some weapon in industrial war for the strike. The unions must be in a position to support the interest of their members and some weapon must be available, but the strike is the poison gas of industrial warfare, and industrial prosperity can only follow when, by agreement, that weapon is laid aside and other means of settling disputes have been devised.

BUILDERS' BENEVOLENT INSTITUTION.

THE seventy-fifth annual general meeting of the Builders' Benevolent Institution was held recently at 48, Bedford-square, W.C.1.

The annual report stated that the pensioners elected during the past twelve months were Mr. T. Beckett, Mr. A. L. Strong, Mr. Henry Holmes, Mr. P. Moses, Mr. Frank Kirk, Mr. A. Storey, Mrs. L. Morley, and Mrs. S. Howard, widow of the late Mr. E. Howard (pensioner). There are now 22 men and 29 women receiving benefits, as against 16 and 30 respectively last year. The Committee expressed its thanks to the members of the family of the late Mr. Joseph Hill, who had transferred to the trustees certain investments, the income from which was sufficient to endow a pensioner.

The report and accounts were adopted.

Major R. J. Holliday, M.C., F.I.O.B. (Messrs. Holliday & Greenwood, Ltd.), was elected President for the ensuing year, and Mr. Frank May, J.P. (Messrs. Holland & Hannen & Cubitts, Ltd.), was re-elected Treasurer. The following were re-elected members of the Committee of Management:—Mr. A. H. Adamson (Messrs. T. H. Adamson & Sons), Mr. J. T. Bolding (Messrs. John Bolding & Sons, Ltd.), Mr. Ben Carter (Messrs. Stephens & Carter, Ltd.), Mr. P. C. Culver (Messrs. Wm. Harbrow, Ltd.), Mr. H. S. Foster, Mr. F. G. Minter, Mr. J. F. Parker (Messrs. Patman & Fotheringham, Ltd.), and Mr. A. Ritchie. Sir Howell J. Williams (Messrs. Howell J. Williams, Ltd.), Mr. Sidney Gluckstein (Messrs. Bovis, Ltd.) and Mr. H. M. Lorden (Messrs. W. H. Lorden & Son, Ltd.) were elected members of the Committee.

A vote of thanks was passed to the President for the past year, Mr. A. B. H. Colls, F.I.O.B.

LAW REPORT.

The Carpenters' Union and Expulsion.

Lords Buckmaster, Atkinson, Sumner, Wrenbury and Carson recently delivered judgment in the House of Lords in the appeals of the Amalgamated Society of Carpenters, Cabinet Makers and Joiners *v.* Braithwaite and others, and the General Union of Operative Carpenters and Joiners *v.* Ashley and another. The Court of Appeal granted an injunction restraining the Unions and their officials from expelling the respondents from the Unions on the ground of their participation in the co-partnership scheme of Lever Brothers, Limited. The Unions appealed to the House of Lords against this decision, and the question was raised whether such an order could be supported or not. The Unions contended that it could not, upon the ground that the action of which the appeal had arisen was one that the respondents were unable to bring, and also because Rule 32 of their Society justified the expulsion. Rule 32 provides that it shall be competent for a managing committee, a district council, or a branch committee at a special or central meeting to fine, to an extent not exceeding £5, or to expel any member from the society, upon satisfactory proof being given that such member is "working on a co-partnership system when such system makes provision for the operatives holding only a minority of shares in the concern." Acting under this rule, the secretary of the joint committee of the union gave instructions that any member in the employment of Lever Brothers who was participating in the co-partnership scheme must be excluded from the society in accordance with the general rules. The respondents accordingly issued a writ against the unions claiming an injunction to restrain the expulsion.

The House of Lords decided that there was jurisdiction to entertain the action, and that the decision of the Court of Appeal was right in granting an injunction restraining the expulsion. The appeals of the Unions were accordingly dismissed and the judgment of the Court of Appeal affirmed.

NEW BUILDINGS IN LONDON.

PUTNEY.—A new Roman Catholic School is now in course of erection in this district for the St. Agnes Convent, Roehampton. There will be a single-floor building of steel and brick with a flat asphalte roof, having frontages of 70 ft. to Clarringdon-road, and 40 ft. to Charlwood-road. There will be four class-rooms with parquet floors, cloakrooms, &c., with "Terrazo" floors, providing accommodation for about 150 children. A large residence adjoining the site has also been acquired, to which an extra floor will be added and a new slate roof fitted. It is understood that this building will be converted into dormitories for the scholars. The building work, &c., is being carried out by a Mr. J. Dewar.

WESTMINSTER.—The existing premises on the corner of Palace-street and Buckingham Palace-road are about to be converted into an up-to-date cinema with seating accommodation for about one thousand persons. It is understood that the construction will probably consist of a steel frame and brickwork with a stucco front. There will be a large gallery and up-to-date fittings, &c., and final details and contracts are now being decided. The architect is Mr. J. Stanley, of 56, Baker-street, W.

WORKMEN'S COMPENSATION.

We may note a point recently decided in the case Smallbone *v.* Fawcett Preston & Co., Ltd. (*Weekly Notes*, July 22). On January 11, 1922, an infant workman had sustained injury by accident arising out of, and in the course of, his employment, and compensation was claimed. At the time of the accident his average weekly earnings were 11s. 10d. a week. The respondents admitted total incapacity. The applicant claimed 16s. 7d. a week compensation, being 10s. under Schedule I par (1) proviso (b) of the Act, plus the war addition, but the respondents, whilst admitting that in the ordinary course the compensation would be 10s., contended that the arbitrator in assessing compensation must take into consideration the war addition, thus making the award 6s. 9d., which, with the war addition, would be 11s. 10d. in all, and the arbitrator had adopted this course.

The Court of Appeal set the award aside holding that the compensation must be assessed without reference to the war addition—that is, they awarded 10s. under the Act and 7s. 6d. war addition.

British Engineering Standards Association.

The British Engineering Standards Association held its fourth annual general meeting recently at the Institution of Civil Engineers, when the Chairman, Sir Archibald Denny, Bart., presented his annual report and made a review of the position. The meeting was well attended, and the Chairman's report again showed great expansion in the work. There are now nearly 2,000 engineers who give their time and experience to the institution. Last year just under £17,000 was expended, towards which industry, in spite of the depression in trade, contributed £9,300, the remainder coming from the Government, the India Office, and the Governments of the Dominions overseas.

The Association has issued 72 new and revised specifications during the year and the sales of the publications have reached 39,000, in addition to a very large number of aircraft specifications distributed on behalf of the Air Ministry.

Funeral of the late Mr. J. D. Sagar.

The interment of Mr. Joseph Donald Sagar, Heath Villas, Halifax, who was killed in the aeroplane accident at Saverne, near Strasburg, took place at All Saints' Cemetery last week. There was a large and representative attendance, about 200 workpeople of J. Sagar & Co., Ltd., Canal Works, Halifax, of which the deceased gentleman was a director, being present.

The late Mr. Sagar was born in Halifax on August 28, 1890, and was the only son of the late Mr. Donald Sagar. He was educated at Heath Grammar School, Halifax, and Sedbergh School, Yorks.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers	Slaters.	Plumbers.	Painters.	Masons' Bricklayers' Plasterers Labourers.
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Barry	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bath	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bedford	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/5½
Birkenhead	1/8	1/8	1/8	1/8	1/8	1/9	1/8	1/3
Birmingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Bolton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bournemouth	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Bradford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Bridgwater	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Brighton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Burnley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Burton-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Bury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cambridge	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Cardiff	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Chatham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Chelmsford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cheltenham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Chesterfield	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Colchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Coventry	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Crewe	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Doncaster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Dudley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
E. Glam. Mon. Vall.)	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Eastbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Exeter	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Folkestone	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Gloucester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Grantham	1/8	1/8	1/8	1/8	1/8	1/8½	1/7	1/3
Grays	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Grimsby	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Great Yarmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Guildford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Hartlepools	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hastings	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Hereford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Hull	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Ipswich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Lancaster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leamington Spa	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Leeds	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Leicester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Lichfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Lincoln	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/5½
Liverpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8½	1/7	1/3
London	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Loughborough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/0½
Luton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0
Maidstone	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/3
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Northampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Norwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Oakham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Oxford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Plymouth	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Portsmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Reading	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Rochester	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Rugby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
St. Albans	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
St. Helen's	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Scarborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Southampton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southend-on-Sea	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/9	1/0	1/3
Stroud	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4	1/0½
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Swindon	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Taunton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Torquay	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Tunbridge Wells	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Walsall	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Windsor	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
York	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2

(For rates of wages in the Building Trade in Scotland, see page 179.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

AUGUST 5.—**Cradley Heath.**—REPAIRS, &c.—Decorating and restoring the interior of St. Luke's Church, Reddall-hill, and repairing the belfry. Mr. W. D. Carôe, 3, Great College-street, S.W.

AUGUST 7.—**Cumbernauld.**—GOODS SHED.—Construction of goods shed at Cumbernauld, for the Caledonian Railway Co. Engineer, Buchanan-street Station, Glasgow. Deposit £2 2s.

AUGUST 7.—**Hairmyres Sanatorium.**—COTTAGES.—Erection of three farm cottages, for the District of the Middle Ward of the County of Lanark. Mr. P. C. Smith, Housing Department, District Offices, Hamilton.

AUGUST 7.—**Prestonpans.**—HOUSES.—Erection of six houses, for the T.C. Messrs. R. & A. K. Smith, surveyors, 44, Queen-street, Edinburgh.

AUGUST 7.—**Staines.**—HOUSES.—Erection of 40 houses, for the R.D.C. Mr. George W. Manning, Architect, Council Offices, London-road, Ashford, Middlesex.

AUGUST 7.—**Stonehaven.**—SANATORIUM.—Erection of sanatorium near the Isolation Hospital. Mr. G. Gregory, architect, Stonehaven.

AUGUST 7.—**Swindon.**—HOUSES.—Completion of 40 houses, for the T.C. Mr. S. C. Baggott, Borough Surveyor, 34, Regent-circus, Swindon.

AUGUST 8.—**Aylesbury.**—FITTING UP SHOW YARD.—For fitting up yard for the Royal and Central Bucks. Agricultural Show. Mr. John Terry, Secretary, 2, Rickford's Hill, Aylesbury.

AUGUST 8.—**West Ashford.**—PAINTING.—For painting the outside of the Institution, Hothfield, for the Board of Guardians. Mr. Edwin A. Jackson, surveyor, North-street, Ashford, Kent.

AUGUST 9.—**Blackwood.**—SCHOOL.—Erection of a temporary infants' Council School, to provide accommodation for 200 children, at Rhiw-Syr-Dafydd, near Blackwood, for the Monmouthshire C.C. Mr. John Bain, F.R.I.B.A., County Hall, Newport.

AUGUST 9.—**Dartmouth.**—ALTERATIONS.—Alterations, &c., at the Dartmouth Girls' and Infants' Council School, for the Devon C.C. County Architect (Education), 1, Blackall-road, Exeter. Deposit £1 1s.

AUGUST 9.—**Garteosh.**—HOUSES.—Erection of 28 houses, for the District Committee of the Lower Ward of the County of Lanark. Mr. J. A. M'Callum, Clerk, 15, West George-street, Glasgow. Deposit £1 1s.

AUGUST 9.—**Port Glasgow.**—POST OFFICE.—Erection of a new post office at Port Glasgow. Architect, H.M. Office of Works, 4-5, Drumsheugh-gardens, Edinburgh. Deposit £1 1s.

AUGUST 9.—**Portsmouth.**—PAINTING.—Painting a steel chimney shaft, 200 ft. in height, at the Electricity Works, for the T.C. Engineer, Electricity Works, Gunwharf-road, Portsmouth.

AUGUST 10.—**Cowbridge.**—HOUSES.—Erection of 26 "A" type houses and 24 "B" type houses on the housing site at Llanharan, for the R.D.C. Mr. Edward Loveluck, A.R.I.B.A., 12, Dunraven-place, Bridgend.

AUGUST 10.—**Langholm.**—HOUSES.—Erection of four blocks of two houses each, for the T.C. Mr. G. Irving Bell, Town Clerk, Langholm. Deposit £1 1s.

AUGUST 11.—**Blaydon.**—HOUSES.—Erection of about 70 houses at Chopwell, for the U.D.C. Mr. Fred. W. Lishman, Clerk, Blaydon-on-Tyne.

AUGUST 12.—**Huddersfield.**—CONVERSION.—For the conversion of offices and warehouse in Northumberland-street into a cinema theatre for Messrs. Freedman's Pictures, Ltd. Messrs. Stock, Sykes & Hickson, architects, 1, St. Peter's-street, Huddersfield.

AUGUST 12.—**Wales.**—ALTERATIONS.—Alterations to the Students' Union at the University College of Wales, Aberystwyth. Mr. G. T. Bassett, A.R.I.B.A., and H. McGregor Wood, A.R.I.B.A., Architects, 13, North Parade, Aberystwyth.

AUGUST 14.—**Belfast.**—PICTURE HOUSE.—Erection of picture theatre at Castle-lane, for Classic Cinemas, Ltd. Mr. A. Ferguson, Surveyor, 2, Wellington-place, Belfast. Deposit £5 5s.

*AUGUST 14.—**Gloucester.**—COTTAGES.—Completion of one pair of stone cottages on the Campden (Station-road) Site Housing Scheme, for the R.D.C. Council's Architect, Mr. W. L. Lissaman, M.S.A., Broadway, Moreton-in-Marsh, Glos.

AUGUST 14.—**Kirkcaldy.**—HOUSES.—Erection of 22 houses of three rooms at Glencraig Site, Lochore, for the Kirkcaldy District Committee. Messrs. William Williamson, F.R.I.B.A., and Geo. B. Deas, Kirkcaldy. Deposit £1 1s.

AUGUST 14.—**Rosyth.**—SHOPS, &c.—Erection of 15 shops and eight houses over same, at Rosyth. Architect, Scottish National Housing Co., Ltd., 111, George-street, Edinburgh.

AUGUST 14.—**Sheffield.**—HOUSES.—Erection of 57 additional houses (4th instalment) on the Stubbin Estate, Firth Park, for the T.C. Mr. F. E. P. Edwards, City Architect, Town Hall, Sheffield. Deposit £2.

AUGUST 14.—**Yeovil.**—HOUSES.—Erection of 20 workmen's houses, for the T.C. Mr. H. C. G. Batten, Town Clerk, Yeovil.

AUGUST 15.—**Welsh Area.**—REPAIRS, &c.—War Dept. Contracts for repairs and materials. Artificers' works contracts from September 1, 1922, for following stations and division in R.E. district. Contract 1, Rhyl Hutments; 2, Wrexham; 3, Shrewsbury; 4, Brecon; 5, Newport (Mon); 6, Cardiff; 7, Barry; 8, Pembroke Dock. The Commanding Royal Engineer, R.E. Office, 3, Belmont, Shrewsbury.

AUGUST 16.—**Burton-on-Trent.**—SUB-STATION.—Erection of a sub-station in High-street, for the T.C. Mr. Thomas Hall, Borough Electrical Engineer, Guild-street, Burton-on-Trent.

AUGUST 16.—**Harrogate.**—CHAPEL.—Demolition of the former St. Mary's Church, Harrogate, and the erection of a chapel in the College grounds, mainly using the materials removed from St. Mary's Church. Mr. Hutchinson, Head Gardener, The College, Harrogate. Deposit £1 1s.

AUGUST 17.—**Grays.**—PAINTING.—Painting and redecorating work at the Children's Homes at Stifford, near Grays, Essex, for the Limehouse B.G. Mr. A. J. Smith, Clerk, Guardians' Offices, Barnes-street, Commercial-road East, E.14. Deposit £2 2s.

AUGUST 17.—**Holywell.**—ALTERATIONS.—Alterations and additions to the Vicarage, Holywell. Mr. Gronwy R. Griffith, architect, 2, Post Office-lane, Denbigh.

AUGUST 17.—**Leeds.**—OFFICES, &c.—Erection of offices and stores in Bridge-street, for the T.C. Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

*AUGUST 17.—**London, E.**—REPAIRS, PAINTING, AND ADDITIONS.—(*a*) For repairs and painting, &c., to certain wards, annexes, &c., at the Hospital at Bancroft-road, E.; (*b*) for alterations and additions to the case-paper department at their buildings at Bancroft-road, E., for the Guardians of the Poor of the Hamlet of Mile End Old Town. Mr. Edmund J. Harrison, architect, R.I.B.A., 23, Berkeley-road, Crouch End, N.8. Deposit £2.

*AUGUST 18.—**Dover.**—HUT.—Erection of a cable hut at Dover, for the Commissioners of His Majesty's Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

AUGUST 18.—**Kidwelly.**—Extension of Sardis Congregation Chapel, Trimsaran, Kidwelly. Messrs. George & Price, P.A.S.I., M.S.A., etc., Cross Hands.

AUGUST 19.—**Chesterfield.**—LODGE.—Erection of a lodge at the Walton Sanatorium, Chesterfield. Mr. G. C. Copestick, New County Offices, Derby. Deposit £1 1s.

AUGUST 19.—**Crewe.**—MEMORIAL.—For the erection complete of a suitable war memorial in the Market-square, the cost of the memorial is not to exceed £1,600, exclusive of foundations. Mr. L. St. G. Wilkinson, M.C., Municipal Buildings, Crewe.

AUGUST 19.—**Wokingham.**—OFFICES.—Erection of two additional offices to the Board Room Buildings, for the Board of Guardians. Mr. P. H. Phipps, Clerk, Union Offices, Board Room, Barkham-road, Wokingham. Deposit £1 1s.

AUGUST 21.—**Shoeburyness.**—PAINTING.—Painting two gas holders and water tank, for the U.D.C. Mr. A. W. Goodchild, The Waterworks, Shoeburyness.

*AUGUST 24.—**Islington.**—REPAIRS AND PAINTING.—Repairs and painting to the Operating Theatre and to two other rooms at the Infirmary, Highgate Hill, N., for the Guardians of the Poor of the Parish of Islington, in the County of London. Mr. Edmund J. Harrison, Architect, 23, Berkeley-road, Crouch End, N.8. Deposit £2.

AUGUST 24.—**Rosyth.**—SHOPS, &c.—Erection of 15 shops, with eight houses over same, at Rosyth, and 40 houses, also at Rosyth. Mr. A. H. Mottram, A.R.I.B.A., Scottish National Housing Co., Ltd., 111, George-street, Edinburgh.

AUGUST 30.—**Skipton.**—WALL.—Taking down and rebuilding a retaining wall at Hazelgill, near Oughtershaw, for the R.D.C. Mr. A. Rodwell, Surveyor, Skipton.

AUGUST 31.—**Mynyddislwyn.**—REPAIRS, &c.—For carrying out repairs and painting at Council Office and caretaker's house, Pontllanfraith, Mon. Mr. Arthur E. John, Surveyor, Council Offices, Pontllanfraith, Mon. Deposit £1 1s.

AUGUST 30.—**Mansfield.**—HOUSES.—Erection of 24 houses, Type A, on Bull Farm Site, for the T.C. Mr. Waude Thompson, A.M.Inst.C.E., Borough Engineer and Surveyor, Market-street, Mansfield.

*SEPTEMBER 1.—**Hants.**—REPAIRS AND MATERIALS.—Tenders are required for the works contracts from October 1, 1922, at various stations in the North Aldershot Royal Engineer District of the Aldershot Command, Commanding Royal Engineer, Royal Engineers' Office, Marlborough Lines, North Aldershot, Hants.

NO DATE.—**Cowbridge.**—HOUSES.—For the erection of 26 "A" type and 24 "B" type houses on the site at Llanharan, for the R.D.C. Mr. Edward Loveluck, A.R.I.B.A., 12, Dunraven-place, Bridgend.

NO DATE.—**Kelloe.**—HOUSES.—Erection for East Hetton Lodge, Durham Miners' Association, of 6 Aged Miners' Homes at Davy Lamp, Kelloe, Coxhoe. Mr. Dixon, Master Mason, Kelloe Pit, Coxhoe.

NO DATE.—**Leeds.**—BUNGALOW.—Erection of a bungalow at The Drive, Ben Rhydding. Mr. W. H. Herbert Marten, architect, 50, Cookridge-street, Leeds.

NO DATE.—**Ryecroft.**—CHURCH.—Erection of the first portion of new church at Ryecroft, near Rawmarsh. Mr. W. H. Wood, architect, 20, Collingwood-street, Newcastle-on-Tyne. Deposit 10s.

FURNITURE, MATERIALS, etc.

*AUGUST 8.—**France and Belgium.**—HEADSTONES.—Supply of 10,000 headstones, packed and delivered f.o.r., to be divided into a number of contracts, none of which shall be for less than 100 headstones. The Secretary, Imperial War Graves Commission, 82, Baker-street, London, W.1, and marked "Headstones Contract 5079 K."

AUGUST 9.—**Egremont.**—LANTERNS.—Supply of 50 copper street lanterns to the U.D.C. Mr. F. Fawcett, manager, Gasworks, Egremont.

AUGUST 9.—**Grimsby.**—MATERIALS.—Supply of highways materials and sanitary requirements, for the T.C. Mr. H. Gilbert Whyatt, M.Inst.C.E., Borough Engineer, Municipal Buildings, Grimsby.

AUGUST 12.—**Kettering.**—PAVING.—Supply to the U.D.C. of 1,200 yards lineal of 9 in. by 4 in. concrete kerb, and about 500 yards super of concrete paving slabs 2 in. thick. Surveyor, Market Place, Kettering.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Bricklayers' Labourers.	Plasterers'
Aberdeen	1/7	1/10½	1/7	1/7½	1/8	1/9	1/7	1/2 to 1/4	
Airdrie	1/6	1/6	1/8	1/8	1/8	1/8	—	1/3	
Alexandria	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2	
Arbroath	1/7	1/7	1/7	1/7	1/7	1/7	1/8	1/1	
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Bathgate	1/3	1/8	1/8	1/8	1/8	1/8	1/9	1/2	
Blairgowrie	1/7	—	1/7	1/7	1/7	1/7	1/7	—	
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/2	
Coatbridge	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/4	
Dumfries	1/6	1/6	1/6	1/6	1/6	1/8	1/8	1/2	1/2½ 1/3½
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/4	
Dunfermline	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/2	
Duns	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/0	
Edinburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Falkirk	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Fort William	1/6	1/6	1/6	1/6	1/6	1/6	—	1/1½	
Galashiels	1/6	1/6	1/6	1/6	1/6	1/6	—	1/1½	
Glasgow	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/4	
Greenock	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/1 to 1/3	
Hamilton	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/7½	
Hawick	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3	
Helensburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/10	1/2	
Inverness	1/6½	—	1/6	1/7	1/6½	1/7	1/6	1/0 to 1/6	
Kilmarnock	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Kirkcaldy	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2	
Kirkwall	1/5	1/5	1/4	1/7	1/5	1/5	1/4	1/2	
Lanark	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3	
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2	
Motherwell	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2	
Perth	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/2	
Stirling	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Stirlingshire (Eastern District)	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Wishaw	1/8	1/8	1/8	1/8	1/8	1/8	—	1/3	

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 178.

AUGUST 14.—**Brynmawr.**—MATERIALS.—Supply of cement, sand and aggregate for concrete, bricks, salt, glazed ware pipes, concrete coping, stone coping, &c., for sewage outfall works, for the U.D.C. Mr. W. J. Lomax, 11, Fold-street, Bolton. Deposit £5.

AUGUST 15.—**Dublin.**—TELEGRAPH POSTS.—Supply of Scots, Swedish, Norwegian, Finnish or Baltic red fir (Pinus Sylvestris) or larch (Laris Europa) telegraph poles, to be felled during the winter of 1922–1923, and delivered during the following summer, for the Postmaster General. Mr. M. Dalton, Controller of Stores, Post Office Stores Department, Aldborough House, Dublin.

AUGUST 16.—**Belfast.**—STORES.—Supply of stores to the Belfast and County Down Railway Co. Mr. H. E. Mellor, Secretary, Queen's Quay Terminus, Belfast.

AUGUST 31.—**Durham.**—ROAD MATERIALS, &C.—Supply to the Durham County Council of road materials, tools, &c. Mr. Albert E. Brookes, County Surveyor, Shire Hall, Durham.

✱SEPTEMBER 11.—**St. Marylebone, N.W.1.**—MATERIALS AND WORK.—Supply of certain materials and work for a period of six months, commencing October 1, 1922. Mr. J. Gair, A.M.I.C.E., Highways Engineer, Town Hall, Marylebone-road, N.W.1.

ENGINEERING, IRON AND STEEL.

AUGUST 5.—**Doncaster.**—ELECTRIC INSTALLATION.—Electric lighting of the Hyde Park Working Men's Club and Institute. Secretary, Institute, Nelson-street, Doncaster.

AUGUST 7.—**Aberdeen.**—PIPES.—Supply of 2 miles of 4 ft. diameter pipes and specials of the following alternative types, viz.:—(a) Cast iron, (b) mild steel, (c) reinforced concrete (bonna and centrifugal types), (d) reinforced concrete (ordinary type). Mr. George Mitchell, Water Engineer, 41½, Union-street, Aberdeen. Deposit £5.

AUGUST 7.—**Dunblane.**—BRIDGE.—Renewal of footbridge over railway, for the Caledonian Railway Co. Engineer, Buchanan-street Station, Glasgow. Deposit £2 2s.

AUGUST 7.—**Glasgow.**—HEATING INSTALLATION.—For repairs to the heating installation at Shieldhall Hospital, for the T.C. Office of Public Works, 64, Cochrane-street, Glasgow. Deposit £2 2s.

AUGUST 8.—**Dublin.**—STEELWORK.—Supply to the Midland Great Western Railway of Ireland Co. of steelwork for underbridge. Mr. Percy A. Hay, Secretary, Broadstone Terminus, Dublin. Deposit £1.

AUGUST 8.—**Manchester.**—BOILER.—Supply of a second-hand steam boiler at the Crumpsall Institution, for the Board of Guardians. Mr. E. Hargreaves, Superintendent of Works, Union Offices, All Saints', Manchester.

AUGUST 8.—**Manchester.**—ELECTRIC LIGHTING.—For electric lighting of portion of Monsall Hospital, for the T.C. City Architect, Town Hall, Manchester. Deposit £1 1s.

AUGUST 8.—**Manchester.**—POLES.—Supply of steel tramway poles, to the T.C. Mr. Henry Mattinson, General Manager, Corporation Tramways, 55, Piccadilly, Manchester.

AUGUST 8.—**Manchester.**—SPECIAL TRACK WORK.—Supply of permanent way special track work, to the T.C. Mr. H. Mattinson, General Manager, Corporation Tramways, 55, Piccadilly, Manchester. Deposit £1 1s.

AUGUST 11.—**London.**—STEELWORK.—Supply of constructional steelwork to the South Indian Railway Company for pump and filter house for the water supply of the Trichinopoly Workshops Scheme. Offices, 91, Petty France, Westminster, S.W. 1. Charge 10s.

AUGUST 12.—**Manchester.**—HEATING INSTALLATION.—Supply and fixing of a heating boiler at the Deansgate Library, for the T.C. City Architect, Town Hall, Manchester. Deposit 10s. 6d.

AUGUST 15.—**Canada.**—PUMP, &C.—Supply and installation of centrifugal sewage pump and motor at main sewage pumping station at Toronto, for the Commissioner of Works. Department of Overseas Trade, 35, Old Queen-street, S.W.

AUGUST 16.—**Rochdale.**—TELEPHONES.—For installing a system of automatic telephones at the Institution, Dearnley, of the Board of Guardians. Mr. R. A. Leach, Clerk, Union Offices, Townhead, Rochdale.

AUGUST 17.—**Matlock.**—SEWAGE PLANT.—Supply and erection of two gas engines (of about 25 b.h.p.), gas producing plant, electric generators and motors and pumping plant, &c., for the U.D.C. Messrs. James Diggle & Son, Civil Engineers, 14, Brown-street, Manchester. Deposit £5.

AUGUST 18.—**London.**—EXCAVATORS.—Supply to the High Commissioner for India of steam dragline excavators. Director-General, India Store Department, Branch No. 12, Belvedere-road, Lambeth, S.E.1.

AUGUST 19.—**Middleton.**—PIPES.—Supply of (1) 1,000 yds. of 12 in. socket and spigot cast-iron gas pipes in 12 ft. lengths, and (2) 1,840 yds. of 6 in. socket and spigot cast-iron gas pipes in 12 ft. lengths, and (3) about 3 tons of specials. Gas Engineer, Gas Works, Townley-street, Middleton.

AUGUST 21.—**Dover.**—RAILS.—Supply of 100 tons of British standard tramway rails. Mr. Wm. Boulton Smith, Borough Engineer, Maison Dieu House, Dover.

AUGUST 31.—**Grimsby.**—HEATING, &C.—New centralised heating and hot water supply plant, fuel economiser, water softening plant, and additions to cooking apparatus, at the Institution of the Board of Guardians. Mr. J. F. Wintringham, Clerk, St. Mary's Chambers, Great Grimsby.

SEPTEMBER 1.—**New South Wales.**—BRIDGE.—The time for receipt of tenders for the construction of the superstructure and substructure of a cantilever bridge across Sydney Harbour has been extended by the New South Wales Government until September 1. Australia House, London, W.C.2.

SEPTEMBER 2.—**Bournemouth.**—PIER WORKS.—For new deck joists, decking, &c., required on the Bournemouth Pier. Mr. F. P. Dolamore, Borough Engineer, Town Hall, Bournemouth. Deposit £1 1s.

SEPTEMBER 5.—**Edinburgh.**—ELECTRIC CRANES.—Conversion of two overhead cranes from mechanical to electrical operation. Tramways Manager, 2, St. James-square, Edinburgh.

SEPTEMBER 15.—**Guayaquil.**—WHARF.—The Government of Ecuador has extended the time for tenders for the construction of a custom-house wharf at Guayaquil until September 15. Consul-General of Ecuador, 23, College-hill, Cannon-street, E.C.

SEPTEMBER 18.—**South Rona.**—BEACON.—Construction of a concrete beacon on a tidal rock which lies off the northern end of South Rona, for the Commissioners of Northern Lighthouses. Mr. C. Dick Peddie, Secretary, Northern Lighthouse Board, Edinburgh. Deposit £1.

ROAD, SANITARY, AND WATER WORKS.

AUGUST 4.—**Norton.**—ROADS.—Making up of Totley Brook-road and Grove-road, Dore, for the R.D.C. Mr. E. A. Sampson, Abbey-lane, Woodseats, Sheffield.

AUGUST 5.—**Welshpool.**—WATER SCHEME.—Construction of a new concrete service reservoir, laying of cast-iron water mains, &c., for the T.C. Mr. Henry J. Weaver, County Chambers, Gloucester. Deposit £5 5s.

AUGUST 7.—**Gleneagles.**—ROADS.—Execution of earthwork and construction of new roads at Gleneagles, for the Caledonian Railway Co. Engineer, Buchanan-street Station, Glasgow.

AUGUST 7.—**Matlock.**—SEWAGE DISPOSAL WORKS.—Construction of humus tanks, ejector chambers, engine house, sludge filters, &c., for the U.D.C. Messrs. James Diggle & Son, engineers, 14, Brown-street, Manchester. Deposit £5.

AUGUST 7.—**Matlock.**—SEWERS.—Construction of sewers, manholes, storm overflows, pump-house and well, electric generating station, &c., for the U.D.C. Messrs. James Diggle & Son, engineers, 14, Brown-street, Manchester. Deposit £5.

AUGUST 7.—**Pontefract.**—ROADS, &C.—For sewerage, road works, and fencing, to serve about 450 houses on Airedale Housing Estate, for the R.D.C. Mr. Geo. W. Hobman, Clerk, 29, Ropergate, Pontefract.

AUGUST 8.—**Manchester.**—ROADS.—For the tar spraying of carriage roads at the Crumpsall Institution, for the Board of Guardians. Mr. E. Hargreaves, Superintendent of Works, Union Offices, All Saints', Manchester.

AUGUST 9.—**Birmingham.**—SEWERS.—Construction of about 740 yards of 69-in. diameter brick and concrete sewer across Edgbaston-road and through Recreation Grounds, for the T.C. Mr. H. H. Humphries, City Engineer, The Council House, Birmingham. Deposit £2.

AUGUST 9.—**Portsmouth.**—ROADS.—Laying asphalte macadam paving in various roads; (2) laying compressed asphalte pavement in certain roads, for the T.C. Mr. F. J. Sparks, Town Clerk, The Town Hall, Portsmouth. Deposit £2 2s.

AUGUST 9.—**Stalybridge.**—SEWAGE DISPOSAL PLANT.—Supply to the Stalybridge and Dukinfield Joint Sewerage Board two centrifugal pumps and other sewage disposal plant. Mr. Charles J. Lomax, 37, Cross-street, Manchester. Deposit £1 1s.

AUGUST 11.—**Newmarket.**—BOREHOLE.—Sinking a borehole and test pumping for obtaining a supply of water for the Parishes of Dullingham, Westley, Brinkley, and Borough Green, for the R.D.C. Messrs. Sands & Walker, Milton Chambers, Nottingham.

AUGUST 14.—**Hayes.**—SEWER.—Construction of about 400 yards of 9 in. sewer in the Uxbridge-road, for the U.D.C. Mr. D. C. Fidler, Surveyor, Council Offices, Hayes, Middlesex.

AUGUST 14.—**Southend.**—ROADS.—For making-up new boulevard, Prittlewell Chase (Eastwood-lane to Southbourne-grove), for the T.C. Mr. R. H. Dyer, Borough Engineer, Southend-on-Sea. Deposit £2 2s.

AUGUST 15.—**Abercarn.**—ROAD WORK.—For supply of and laying kerbing and channelling at Crumlin, Newbridge, Abercarn, and Cwmcarn, for Abercarn U.D.C. J. Williams, Engineer and Surveyor, Council Offices, Abercarn.

AUGUST 16.—**Greenford.**—SEWERAGE WORKS.—For works of sewerage and drainage, for the U.D.C. The works generally will consist of (1) sewers and engine house, (2) outfall works, (3) machinery. Messrs. Howard Humphreys & Sons, 28, Victoria-street, Westminster, S.W.1. Deposit £3 3s.

✱AUGUST 18.—**Southampton.**—ROADS.—Repair of roads at the Ordnance Survey Office, Southampton, for the Commissioners of His Majesty's Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

AUGUST 21.—**Darlaston.**—SEWERS, &C.—Construction of stoneware pipe sewers and sewerage work, for the U.D.C. Messrs. Dodd, Dodd & Watson, County Chambers, Corporation-street, Birmingham. Deposit £5.

SEPTEMBER 12.—**Bushey.**—ROADS.—For surfacing certain footpaths with tar-paving and other works, for the U.D.C. Mr. Ernest E. Ryder, Surveyor, Bushey, Herts. Deposit £2 2s.

SEPTEMBER 13.—**London.**—PUMPING PLANT.—Supply and erection of pumping machinery at Surbiton Pumping Station, Surrey, for the Metropolitan Water Board. Offices of the Board (Room 182), Chief Engineer's Dept., 173, Rosebery-avenue, Clerkenwell, E.C.1. Deposit £3 3s.

Competitions.

(See Competition News, page 156.)

Auction Sales, Tenders, etc.

✱AUGUST 8.—**Shrewsbury.**—Messrs. Alfred Mansell & Co. will sell, by order of the Atcham Rural District Council, surplus building materials at Council's housing site, Bicton. Auctioneers, College Hill, Shrewsbury.

AUGUST 10.—**Gloucester.**—Messrs. Bruton, Knowles & Co. will sell, by direction of the Disposal Board, at the Army Ordnance Depot, The Docks, Gloucester, office furniture, trestle tables, wagons, canteen equipment, and a ferry boat. Auctioneers, Albion Chambers, Gloucester.

AUGUST 11.—**Beachley.**—Messrs. Bruton, Knowles & Co. will sell, by direction of the Disposal Board, at the National Shipbuilding Yard, Beachley, near Chepstow, 16 sectional wooden huts, building material, bricks, &c. Auctioneers, Albion Chambers, Gloucester.

AUGUST 15.—**Norwich.**—Mr. S. Mealing Mills & Co. are instructed by A. E. Collins, Esq., M.Inst.C.E., City Engineer, to sell, without reserve, contractors' plant used in the erection of the "Dorlonco" houses, electric motors, light railway track, concrete moulding machine, and other building material and ironmongery.

AUGUST 16.—**Paddington.**—Messrs. Fuller, Horsey, Sons & Cassell will sell, at Messrs. Phillips, Mills & Co.'s Wharf, Amberley-road, Paddington, on account of disposal of property, surplus plant and materials, including two hydraulic presses, cutting machines, saw benches, and a quantity of machinery and effects. Auctioneers, 11, Billiter-square, E.C.3.

✱AUGUST 16.—**Roehampton.**—Messrs. J. T. Skelding, & Co. will sell on site, at top of Roehampton Housing Estate, Dover House-road, Upper Richmond-road, S.W., unreserved sale of road contractors' plant and machinery, tip wagons, portable railway, huts, timber, &c. Auctioneers, 48, Gresham-street, Guildhall, E.C.2.

✱SEPTEMBER 20.—**Pinner.**—Messrs. Duncan B. Gray & Partners will sell, in about 30 lots, at the Parish Hall, Pinner, freehold building plots on the Barrow Point Estate, Pinner. Auctioneers, 129, Mount-street, Grosvenor-square, London, W.1.

Public Appointments.

AUGUST 5.—Building inspector required by East Ham C.B. Mr. C. Eustace Wilson, Town Clerk, Town Hall, East Ham, E.6.

✱AUGUST 10.—**Brixton.**—Required by the L.C.C. visiting teacher of Builder's Bookkeeping for one evening a week at the School of Building, Ferndale road, Brixton. Education Officer (T.1a), The County Hall, Westminster Bridge, S.E.1.

✱SEPTEMBER 2.—**Staffordshire.**—Architect and Surveyor required by the Education Committee. Salary £800 (no Bonus). Mr. Graham Balfour, Director of Education, County Education Offices, Stafford. Endorsed "Architect."

SEPTEMBER 18.—**Leeds.**—Lecturers required to give instruction to advanced students on Monday or Wednesday evenings, commencing September 18. Subjects: Building Construction and Structural Work. Director of Education, Education Offices, Leeds.

TRADE NEWS.

Messrs. James Bodle, Ltd., of Eastbourne, have opened a branch at Lloyds Bank Chambers, London-road, East Grinstead.

Marseilles roofing tiles (sole agent: Langley London, 161, Borough High-street, S.E.1) are made of non-ferrous clay, the advantage of which is that it bakes at a much higher temperature and results in a harder and cleaner tile, which is, practically speaking, non-absorbent. The absence of iron also accounts for the freedom from distortion during baking, and to subsequent laminating and deteriorating with use. The present output is about 240 million pieces per annum. During 1921, over 4,000 houses in the United Kingdom were covered with Marseilles tiles.

We have received a pamphlet illustrating and describing the Ransome & Newell patent self-aligning band saw guides made by Messrs. Ransome & Co. Ltd. Newark-on Trent. The chief feature of the guide is that the jaws, or guiding parts, instead of being rigid, have a swinging movement which allows the back of the saw to swing freely while the teeth are held practically stationary. This is accomplished by an ingenious though simple method ensuring that the saw is quite free to pivot about a centre located at its teeth.

Wages in the Electrical Industry.

At a conference held in York, on July 27, between the Executive of the National Federated Electrical Association and the Electrical Trades Union an agreement was arrived at by which each side recommends to its constituent body a reduction of wages of 5 per cent., to take effect on the second pay-day in October, and a further 5 per cent. to come into effect on the second pay-day in December. This agreement was later confirmed by a meeting of the National Joint Industrial Council.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue several prices have been revised.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.	£ s. d.
Best Stocks	4 2 0

Per 1000, Delivered at London Goods Stations.	£ s. d.		£ s. d.
Flettons, at			
King's Cross	3 1 0	Best Blue Pressed Staffs.	10 1 6
Do. grooved for plaster	3 3 0	Do. Bullnose ..	10 11 6
Do. Bullnose ..	3 16 0	Blue Wire Cuts	8 1 6
Best Stourbridge Fire bricks:—			
2½ in.	11 3 0	3 in.	13 2 0

GLAZED BRICKS—			
Best White, Ivory, and Salt Glazed Stretchers ..	24 0 0	D'ble Str'tch'rs	32 10 0
		D'ble Headers	29 10 0
Headers	23 10 0	One Side and two Ends ..	33 10 0
Quoins, Bullnose and 4½in. Flats	30 10 0	Two Sides and one End	34 10 0
		Splays and Squints	32 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.		
Thames Ballast	13 6	per yard,	delivered 2 miles radius Paddington.
Pit Sand	16 0	„ „	
Thames Sand	16 6	„ „	
Best Washed Sand	16 6	„ „	
¾ in. Shingle for Ferro-Concrete	14 0	„ „	
¼ in. „ „	15 0	„ „	

Per ton delivered in London area in full van loads.

	£ s. d.	£ s. d.
Best Portland Cement. British Standard Specification Test	3 3 0	3 8 6

56/- alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above 10 0

NOTE.—The sacks are charged at 1s. 9d. each and credited at 1s. 6d. each if returned in good condition within three months, carriage paid.

Best Ground Blue Lias Lime 2 5 6 at rly. depot.
Grey Stone Lime 56s. 6d. per ton delivered in City and Central districts.
Stourbridge Fireclay in s'cks 37s. 8d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R.. per ft. cube	3 1
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R.. per ft. cube	3 4
Do. do. delivered on road wagons at Nine Elms Depot	3 5
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 7
Do. do. delivered on road wagons at above stations, per ft. cube	4 8
White basebed, 3d. per ft. cube extra.	

NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.

YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station London.	s. d.
6 in. sawn two sides landings to sizes (under 30 ft. super.) Per Ft. Super	5 10½
6 in. rubbed two sides, ditto „	6 4½
3 in. sawn two sides slabs (random sizes) „	2 5½
2 in. to 2½ in. sawn one side slabs (random sizes) „	1 6½
1½ in. to 2 in. ditto, ditto „	1 4
HARD YORK— Delivered at any Goods Station London.	
Scappled random blocks Per Ft. Cube	6 0
6 in. sawn two sides landing to sizes (under 40ft. super.) Per Ft. Super	5 4½
6 in. rubbed two sides ditto „	6 0½
4 in. sawn two sides slabs (random sizes) „	2 10
3 in. ditto, ditto „	2 5½
2 in. self-faced random flags .. Per Yard Super	8 4

WOOD.

GOOD BUILDING DEAL.

Inches	£ s.	
4 × 11	36 0	per standard
4 × 9	30 0	„
4 × 8	30 0	„
4 × 7	30 0	„
3 × 8	30 0	„
3 × 7	25 0	„
2½ × 7	22 10	„
3 × 6	22 10	„
3 × 11	35 0	„
2 × 11	35 0	„
3 × 9	30 0	„
2½ × 9	30 0	„
3 × 4½	20 10	„
2 × 4	20 10	„

PLANED BOARDS.

1 × 11	42 10	„
1 × 9	37 10	„

PLAIN EDGE FLOORING.

Inches		
¾	20/-	per square
1	22/6	„
1¼	25/-	„
1½	32/6	„
1¾	44/-	„

TONGUED AND GROOVED FLOORING.

Inches		
1	25/-	per square
1¼	32/6	„
1½	44/-	„

WOOD (*Continued*).

MATCHINGS (BEST).

Inches		
¾	17/6	per square
1¼	22/6	„
1	25/-	„

Inches	BATTENS.	s. d.	
¾ × 2		3 0	per 100 ft.

SAWN LATHS.

Per bundle				0 4	0
Dry Wainscot Oak, per ft. super, as inch	0 2 6	to	0 3	0	
¼ in. do. do.	0 1 10½	to	0 2	6	
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0 2 3	to	0 3	0	
Cuba Mahogany	0 3 6	to	0 4	0	
Teak (Rangoon, Moulmein or Java), per load	52 10 0	to	55 0	0	
American Whitewood planks, per ft. cube	0 16 0	to	0 18	0	
Best Scotch Glue, per cwt	7 2 0	to	—		
Liquid Glue, per cwt	4 18 0	to	6 0	0	

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	46 10 0	18 by 10	28 5 0
22 by 12	42 5 0	18 by 9	23 2 6
22 by 11	39 0 0	16 by 10	22 0 0
20 by 12	37 2 6	16 by 8	17 2 6
20 by 10	31 15 0		

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district	6 0 0
Ditto hand-made ditto	6 10 0
Ornamental ditto	6 15 0
Hip and valley tiles (per dozen) Hand made	0 8 6
Machine made	0 8 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—	£ s. d.
R. S. Joists, cut and fitted	14 0 0
Plain Compound Girders	16 0 0
„ Stanchions	18 0 0
In Roof Work	21 0 0

WROUGHT IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £15 net value delivered direct from Works. 5 per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes. (all sizes).	Fittings, Up to 2".	Fittings, Over 2".	Flanges. Up to 2".	Flanges. Over 2"
Gas	55 %	50 %	55 %	60 %	65 %
Water	50 %	45 %	50 %	55 %	60 %
Steam	45 %	40 %	45 %	50 %	55 %
Galv'd—					
Gas	45 %	42½ %	47½ %	52½ %	57½ %
Water	37½ %	37½ %	42½ %	47½ %	52½ %
Steam	27½ %	32½ %	37½ %	42½ %	47½ %

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts plain	3 2½	2 5	2 11
2½ in. „ „	3 9½	2 8	3 8
3 in. „ „	4 5½	2 11	4 4
3½ in. „ „	4 10½	3 8	5 1
4 in. „ „	5 5	4 1	5 10

RAIN-WATER PIPES, &c.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts. plain	2 1	1 7½	2 2½
2½ in. „ „	2 3½	1 10½	2 7½
3 in. „ „	2 9	2 4	3 6
3½ in. „ „	3 3	2 9½	4 1
4 in. „ „	3 8	3 4½	4 11½

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices per yd.: 4 in., 5/3. .. 5 in., 6/9. .. 6 in., 8/-.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	13 0 0	to	14 0 0
Staffordshire Crown Bars — good merchant quality	14 0 0	..	15 0 0
Staffordshire "Marked Bars"	16 0 0	..	17 0 0
Mild Steel Bars	12 0 0	..	13 0 0
Steel Bars, Ferro-Concrete quality, basis price ..	12 0 0	..	13 0 0
Hoop Iron, basis price ..	15 0 0	..	16 0 0
„ „ Galvanised ..	29 0 0	..	31 0 0
Soft Steel Sheets, Black— Ordinary sizes to 20 g.	14 0 0	..	15 0 0
„ „ „ 24 g.	15 0 0	..	16 0 0
„ „ „ 26 g.	16 10 0	..	18 10 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality— Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g.	21 0 0	..	22 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g.	22 0 0	..	23 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g.	24 0 0	..	26 0 0
Flat and Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 9ft. 20 g.	20 0 0	—	21 0 0
Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g.	20 10 0	—	21 10 0
Ordinary sizes, 6ft. to 9ft. 26 g.	22 10 0	—	23 10 0

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Sheets Galvanised Flat, Best quality— Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker	24 0 0	..	25 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	25 0 0	..	26 0 0
Best Soft Steel Sheets, 26 g.	26 10 0	..	27 10 0
Cut Nails, 3in. to 6in.	23 0 0	..	24 0 0

(under 3in. usual trade extras.)

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1/4 to 1/7 per foot super.

LEAD, &c.

Delivered in London.	£ s. d.		£ s. d.
LEAD—Sheet, English, 4 lb. and up	36 0 0	..	—
Pipe in coils	36 10 0	..	—
Soil Pipe	39 0 0	..	—
Compo pipe	40 0 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills per ton	22 0 0	..	—
Do., ex country, carriage forward per ton	23 0 0	—	—
COPPER—			
Strong Sheet per lb.	0 2 3	—	—
Thin „ „	0 2 4	..	—
Copper nails „	0 2 3	..	—
Copper wire „	0 2 4	—	—
TIN—English Ingots „	0 1 9	—	—
SOLDER—Plumbers' „	0 0 10	..	—
Tinmen's „	0 1 0	..	—
Blowpipe „	0 1 3	—	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. fourths	3½d.	32 oz. fourths	8½d.
„ thirds	4½d.	„ thirds	10d.
21 „ fourths	5½d.	Obscured Sheet, 15 oz.	4½d.
„ thirds	6d.	21 „	7d.
26 „ fourths	6½d.	Fluted and Enamelled 15 „	8½d.
„ thirds	7½d.	21 „	10½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	4½d.
⅛ Rough rolled	6d.
¼ Rough rolled	6½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	6½d.
Ditto, tinted	9½d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

PAINTS, &c.

	£ s. d.
Raw Linseed Oil in pipes per gallon	0 4 4
„ „ „ in barrels „	0 4 5
„ „ „ in drums „	0 4 7
Boiled „ „ in barrels „	0 4 9
„ „ in drums „	0 4 11
Turpentine in barrels „	0 5 6
„ in drums (10 gall.) „	0 5 9
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)	55 15 0
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots per ton delivered	77 10 0
Red Lead, Dry (package extra) .. per ton	38 0 0
Best Linseed Oil Putty per cwt.	0 17 0
Fluocol per cwt.	0 15 6
Sine. X D Quality fkn.	0 4 6

VARNISHES, &c.

	Per gallon. £ s. d.
Oak Varnish Outside	0 14 0
Fine ditto ditto	0 16 0
Fine Copal ditto	0 18 0
Pale Copal ditto	1 0 0
Pale Copal Carriage ditto	1 4 0
Best ditto ditto	1 12 0
Floor Varnish Inside	0 18 0
Fine Pale Paper ditto	0 18 0
Fine Copal Cabinet ditto	1 2 6
Fine Copal flatting ditto	1 0 6
Hard drying Oak ditto	0 18 0
Fine Hard drying Oak ditto	0 19 0
Fine Copal Varnish ditto	1 0 0
Pale ditto ditto	1 2 0
Best ditto ditto	1 12 0
Best Japan Gold Size	0 12 0
Best Black Japan	0 14
Oak and Mahogany Stain (water)	0 12 0
Brunswick Black	0 9 0
Berlin Black	0 14 0
Knotting (patent)	1 5 0
French and Brush Polish	1 2 6
Liquid Dryers in Terebine	0 12 6
Cuirass Black Enamel	0 7 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	15	0
Add if in clay	" "	1	6
Add for every additional depth of 6 ft.	" "	0	9
Planking and strutting to trenches	per foot super	0	7
Do. to sides of excavation, including shoring	" "	1	2

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	40	0
Add if in underpinning in short lengths	" "	9	0
Add if in floors 6 in. thick	" "	3	9
Add if in beams	" "	4	6
Add if aggregate 1 : 2 : 4	" "	11	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	3	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	36	0	0
Add if in stocks	"	8	10	0
Add if in Staffordshire blues	"	25	10	0
Add if in Portland cement and sand	"	3	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	3
Setting ordinary register grates and stoves	each	1	1	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	5	5	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.		7	6
Three-quarter-inch vertical damp course	" "		11	0
½ inch on flats in two thicknesses	" "		8	6
Angle fillet	per foot run		0	3
Skirting and fillet 6 in. high	" "		1	4

MASON.

		s.	d.
York stone templates fixed	per foot cube	16	3
York stone sills fixed	" "	28	6
Bath stone and all labour fixed	" "	15	0
Portland stone fixed	" "	22	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	79	9
Do. 20 in. × 10 in. Do. Do.	"	90	9
Do. 24 in. × 12 in. Do. Do.	"	99	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	5	9
Do. joists	" "	6	9
Do. roofs, floors and partitions	" "	6	9
Do. trusses	" "	8	6

		¾"	1"	1½"	2"
Deal rough close boarding	per sq.	42/-	48/-	56/-	85/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	60	0
Do. to beams	per ft. sup.	1	6
Centres for arches	"	2	0
Gutter boards and bearers	"	1	3

FLOORING.		¾"	1"	1½"	1¾"
Deal edges shot	per sq.		49/-	58/-	67/-
Do. tongued and grooved	"		54/-	65/-	72/-
Do. matchings	"	45/-	55/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/8	2/1	2/3	2/9

SASHES AND FRAMES.		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	3
Add for fitting and fixing	" "	0	6
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights ; average size	" "	4	1

DOORS.		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/4	2/7	2/9
Four-panel Do.	"	2/8	3/0	3/3
Two-panel moulded both sides	"	3/0	3/3	3/6
Four-panel Do. Do.	"	3/3	3/7	3/10

CARPENTER AND JOINER—continued.

FRAMES.		s.	d.
Deal wrot moulded and rebated	per foot cube	14	6

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/9	1/10	2/1
Deal shelves and bearers	"	1/6	1/8	1/11
Add if cross tongued	"	2d.	2d.	2d.

STAIRCASES.	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail ; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4
Sash fasteners	11½d.	Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	19	0
Plain compound girders	"	22	0
Do. stanchions	"	25	0
In roof work	"	30	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/11	2/4½	3/7	4/-
Ogee Do. Do.	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	56	0
Do. Do. in flats	"	52	0
Extra labour and solder in coated cesspools	each	7	4
Welt joint	per ft. run.	0	6
Soldered seam	" "	1	10
Copper nailing	" "	0	7

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	10d.	1/6	1/9	3/1	3/10	
Do. service	"	1/5	1/11	2/3	3/6		
Do. soil	"						6/2
Bends in lead pipe	each					3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"				14/7	19/6	
Bib cocks and joints	"	6/4	9/7	15/4	41/-		
Stop cocks and joints	"	15/4	17/2	25/8	64/-		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	3	0
Do. Do. Sirapite	" "	3	2
Do. Do. Keen's	" "	4	4
Add sawn lathing	" "	1	7
Add metal lathing	" "	2	10
Portland cement screed	" "	2	9
Do. plain face	" "	4	4
Mouldings in plaster	per 1 girth	0	3
One-and-a-half granolithic pavings	per yard sup.	6	4

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	1	1
26 oz. Do.	" "	1	4
Obscured sheet	" "	1	8
¼ in. rolled plate	" "	1	0
¼ in. rough rolled or cast plate	" "	1	1
¼ in. wired cast plate	" "	1	7

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	1	0
Knotting and priming	" "	0	8
Plain painting 1 coat	" "	0	11
Do. 2 coats	" "	1	7
Do. 3 coats	" "	2	4
Do. 4 coats	" "	3	0
Graining	" "	2	5
Varnishing twice	" "	1	11
Sizing	" "	0	4
Flatting	" "	0	8
Enamel	" "	1	3
Wax polishing	per foot sup.	0	9
French polishing	"	1	3
Preparing for and hanging paper	per piece	2/- to 4/-	

* These prices apply to new buildings only. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

PROPOSED NEW BUILDINGS & OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council

ABERAYRON.—The U.D.C. is communicating with the Ministry of Health with regard to a new water supply scheme.

ABERCARN.—Sir Charles Ruthen, of Ministry of Health, has replied to the U.D.C. that sympathetic consideration is to be given to its application for power to erect a large number of houses at Treowen and Llangaich. In 1919, a promise of 600 houses was made to the Council, of which 112 are in course of erection. The Council's application was for authority to tender in respect to remainder.

ABERTILLERY.—The Engineer to the Water Co. has reported further sacks and fissures at Cwmtillery Reservoir, and declared that repair and preventive work should at once be undertaken. The Board has appointed a committee to act with the Engineer in deciding upon the work.

AMMANFORD.—The U.D.C. has entered into negotiation with the Dynevor Estate Agent for the purchase or hire of land for the erection of houses.

AYLESBURY.—Plans passed by T.C.: Alterations and additions, 143, 145 and 147, Buckingham-road, for Messrs. H. E. Rickard & Son; 8 houses, Buckingham road, Mr. H. Fillery, for Mr. J. C. Farleigh; bungalow, Tring-road, for Mr. W. Evett; shop front, Buckingham-street, for Mr. E. Mealing; additions, 59, Buckingham-road, Mr. R. Eaton, for Mr. H. Plater; 20 new houses, Southcourt, Messrs. Murrell & Pigott, for the Aylesbury Town Council.

BAGSHOT.—The Windlesham Urban District Council, at a recent meeting, decided to make application to the Unemployment Grants Committee for a grant to carry out a scheme of main drainage and sewage disposal for their district, prepared by Major T. J. Moss-Flower, 28, Victoria-street, Westminster. The scheme embraces Bagshot, Lightwater and Windlesham. The Engineer was instructed to furnish the necessary information required by the Unemployment Grants Committee.

BARRY.—The Ministry of Health has under consideration an application from the Barry U.D.C. for sanction to erect 70 houses.

BATLEY.—Plans have been approved by the T.C. for the conversion of an Army hut into dressing-rooms and pavilion at the ground of the Batley Rugby Union Football Club in Carlinghow-lane, for a sub-station adjacent to the housing estate for the electricity department.

BIRMINGHAM.—At a meeting of the Gas Committee, the receipt of official sanction was reported to the borrowing of two amounts of £347,655 and £54,000—the former for the erection of two holders at Washwood Heath and works ancillary thereto, and the latter for the laying of a new trunk main from Washwood Heath through Bromford to Sutton-road.

BOURNEMOUTH.—The T.C. has decided on advertising the competition for plans for a pavilion on a site at the pier approach, to cost £100,000. The accommodation is to include a large licensed refreshment room, fitted for entertainments and concert parties, tea balconies, billiard and rest rooms, also a great hall with gallery accommodation for 2,000, with a stage for first-class orchestral, operatic, and dramatic performances.——Plans passed by T.C.: Additions, 306, Holdenhurst-road, for Messrs. Thresher & Sons; additions, "Ranawella," 39, Wimborne-road, for Miss C. Finde; motor house, "Talana," Beechwood-avenue, for Mr. J. Bland; additions, "Trelawney," The Avenue, Redhill Park Estate, for Mr. H. W. King; lavatories, Richmond Hill Printing Works, Yelverton-road, for Mr. E. J. Mapp; additions, rear of 21, Waterloo-road, for Mr. E. F. Hall; alterations, 2, Beresford-road, for Messrs. Pearson, Burrell and McEwens; store, etc., rear of No. 1, Colville-road, for Messrs. Eldridge Pope & Co.; motor house, "West Mount," St. Alban's-avenue, for Mr. R. R. Tuck; additions to house, Queen's Park-avenue, for Messrs. E. M. Drewett & Co.; additions to house, Queen's Park South Drive, for Mr. A. Wright; motor house, Cecil-avenue, for Mr. Tiptree; house, The Avenue, Redhill Park Estate, for Mr. H. C. Barnes; house, corner of Wimborne-road and Castle-lane, for Mr. F. W. Osborne; house, Howard-road, for Mr. E. H. Walley; house, corner of Carberry-avenue and Leigham Vale-road, for Messrs. Lawrences; alterations and additions, 8, Albert-road, for Mr. P. W. Surplice; pair houses, Beaufort-road, for Mr. F. W. Mills; house, Beaufort-road, for Mr. F. W. Mills; house, Queen Mary-avenue, for Mr. T. A. Bennett; alterations and additions, "Sedaw," Alum Chine-road, for Messrs. S. Brown & Sons; house, Keswick-road, for Mr. J. Newbury; house, East-avenue, for Mr. A. D. Lambert; house, St. Alban's-avenue, for Mrs. C. Jacobs; house, Beechwood-avenue, for Mr. F. A. Grigg; two houses, Portland-road, for Mr. F. White; additions, "Empress Hotel," Richmond Hill, for Mr. H. C. Sutcliffe; alterations and additions, "Nunthorpe," Branksome Wood-road, for Mr. Saye; additions to workshops, 31, Oxford-road, for Messrs. H. J. Dyer & Sons; house, Soberton-road, for Mr. C. V. Miller; conversion into flats, 14, Donoughmore-road, for Mrs. F. Avery; house, Ensbury Park-road, for Mr. Ridout; bungalow, Court-road, for Mr. C. C. Stone.

BURNHAM-ON-CROUCH.—Plans have been passed by the U.D.C. for bungalows for Mr. S. H. Willett and Mr. Slaughter.

CAMBRIDGE.—Plans passed by T.C.: House, Garden Walk, for Mr. J. Brown, 20, Trinity-street; pair of houses, Milton-road, for Messrs. S. Ginn & Sons, 14, Victoria-road; additions, Hartington Grove, for Miss Gamlen, Windermere House School, Cherryhinton-road; additions, 15, Selwyn Gardens, for Mr. T. F. C. Huddleston, 11, Selwyn-gardens; six pairs of houses, Barton-road, for Messrs. W. Saint, Ltd., St. Barnabas-road; garage, 190 and 192, Mill-road, for Mr. T. J. Harmer, 190 and 192, Mill-road; motor house, Grange-road, for Mr. W. P. Cutlack; garage, Homerton-street, for Mr. A. W. G. Morlin, 148, Hills-road; garage, rear of Station Hotel, Station-road, for Mr. Charles Arnold; store, Mill-road, for Mr. E. Gray, Rustat-road; additions, 6, Selwyn-gardens, for Dr. J. Ward; house, Long-road, for Mr. G. P. Banyard, 30, Sidney-street; six houses, Grantchester-road, for Messrs. J. R. Bennett & Sons, Catharine-street; house, Trumpington-road, for Dr. A. B. Appleton, 76, Chesterton-road; additions, 17, Trumpington-street, for Dr. H. B. Roderick; house, Queen Edith's Way, for Mr. D. C. Barnard, Milton Lodge, Harpenden, Herts; alterations, 78, King-street, for Mr. H. Wallis, 78, King-street; bathroom, 3, St. Andrew's-terrace, for Mr. W. C. Gibbs; house, corner of Newton and Bentley-roads, for Mr. H. G. Thynne, Union-road; house, Storey's Way, for Mr. A. Bentham Dickinson, 5, Barby-road, Rugby; four houses, Cyprus-road, for Mr. R. Slingsby, 31, Mawson-road; house, Long-road, for Mr. G. P. Banyard, 30, Sidney-street; New-road (Coniston-road), off Cherryhinton-road and opposite Bilneo-grove, for Mr. C. Howe, "Bleak House," Cherryhinton-road; store shed, 31, Parkside, for Mr. H. White, 31, Parkside; garage, Mackenzie-road, for Mr. T. Peak, 1, Mackenzie-road; additions and shop front, 32, Hills road, for Mr. G. Peck, 105, Russell-street; store, Jesus-lane, for the Master and Fellows, Jesus Collge.

CARLISLE.—A scheme for the clearance of a slum area between South George-street and South John-street, has been before the Council. It involves the displacement of 32 families, and it is proposed to rehouse them on the Blackwall-road housing estate. It is also proposed to clear an area at Crown-street, and to erect houses at Wigton-road for the displaced occupiers.

CHELMSFORD.—The construction of a new loop road, from Springfield-road (the main road to Colchester) to Duke-street, has been the subject of inquiry by Mr. C. G. Mitchell, an inspector of the Ministry of Health, held in the Shire Hall, Chelmsford. The Chelmsford T.C. has asked for sanction to borrow £18,000, half the estimated cost of the proposed road.

CHESTER.—Plans passed by T.C.:—Alterations to shop premises, 18, Bridge-street; garage and workshop, Northgate-street, back road, Mr. C. O. Campbell, for Mr. W. H. Denson; lay-out plan for development of three acres of land in Brook-lane, by Mr. W. Williams, builder, Newton-by-Chester.

EASTBOURNE.—Plans passed by R.D.C.:—Bungalow, at Pevensey Bay, for Mr. W. G. Rich; Mr. A. D. Jarvis, surveyor, house near Dittons Farm, Westham, for Mrs. H. L. Kimpton, Messrs. G. Gower, builders; house near Dittons Farm, Westham, for Mr. C. H. Mayo, Mr. S. G. Scales, architect.

GLASGOW, MOSSPARK.—Following upon an application by the Presbytery of Paisley for a site at Mosspark for the erection of a church and manse, the Housing Committee recommends that a site should be given at a price to the arranged with the City Engineer.

GREENOCK.—A proposal has been made for the formation of three new streets on ground at Newark-street, Greenock, and a report is being prepared by the Master of Works. Prospective housebuilders are making inquiries regarding the area.

HARWORTH.—A site for a new school has been conveyed to the Notts C.C. by the Harworth Main Colliery Co.

HERNE BAY.—An important scheme of sea front improvement is being considered by the U.D.C. The proposal is to construct on the promenade, opposite the Tower Gardens, a projection for a bandstand, shelters, bathing boxes and bathing pool. The estimated cost for the complete scheme is £35,000.

HESTON AND ISLEWORTH.—Plans passed by U.D.C.:—Messrs. Daneis & Son, Ltd., for bathroom, Osterley-gardens, Osterley; Mr. W. Watson, for alterations, 175, High-street, Hounslow; Mr. J. Levy, for four houses, College-road, Isleworth; Mr. W. Sharpington, house, Borough-road, Isleworth; Mr. J. Edwards, house, Wellington-road North, Hounslow; Mr. G. Percy Pratt, bungalow, Wood-lane, Osterley; Mr. W. Emmett, bathroom and addition, 59, Montague-road, Hounslow; Mr. George Garner, bungalow, Cambridge-road, Hounslow; Messrs. L. L. Leeder & Co., garage, 2, Jersey-villas, Jersey-road, Osterley.

ILFORD.—Plans passed by U.D.C.:—L.C.C. Becontree Estate, house drainage, roads 43, 41, 45 and 46, and Bennetts Castle-lane; H. Stonell, bungalow; L.C.C. house drainage, Longbridge-road; W. Keens, stable, Youngs-road; A. P. Griggs, block plan 21–63, St. Andrews-road; Konrath Dale and Fishwick, alterations to lavatories at workshop, Green-lane; A. Allen, addition at rear of 57, Castleton-road; F. W. Hitchcock, dwelling-houses, Barley-lane; W. J. Hobbs, motor house, 50, Clarence-avenue; Dowsing & Davis, dwelling-house at Grove-road; A. J. Walker, 1, Tillotson-road, garage; F. W. Hitchcock, bungalow, Green-lane; W. S. Mason, garage, 157–161, High-road; J. Aylott, dwelling-house, Green-lane; Norton Bros. & Co., boiler shed, Seven Kings Laundry Co.; P. G. Ashton, dwelling-house, junction Green-lane and Aberdour-road; C. James, two lock-up shops, Goodmayes-road; C. J. Dawson, Son & Allardyce, extension to Ilford Emergency Hospital.

LAMPETER.—An inquiry was conducted last week by an Inspector of Ministry of Health, into the U.D.C.'s proposal to spend £2,000 in rebuilding the market premises, and £400 on new sewer construction in Market-street and Station-terrace.

LANCASTER.—Plans passed by T.C.:—Alterations and additions, 12, Great John-street, for Messrs. J. Cockerill & Sons; alterations and additions, in Market-street, for the London Joint City and Midland Bank; conversion of warehouse into public hall in James-street, for Mr. L. Parkinson; alterations and additions, "Boot and Shoe Hotel," Scotforth, for Executors of William Mitchell; conversion of garage into kinema, Parliament-street, for Kingsway Kinema Co.; alterations to shop front in Church-street, for the Lancaster and District Co-operative Society, Ltd.; timber-frame building, St. Leonardgate, for Waring & Gillows, Ltd.

LEYTON.—Plans passed by U.D.C.: Messrs. Kind & Co., alterations and additions to 27, Church-lane, Leytonstone; Mr. Chas. Living, Junr., alterations at 511, High-road, Leytonstone; Mr. W. Stewart, extension to the Caribonum Factory in Laura-road; Messrs. S. Jones & Co., Ltd., alterations at 616, Lea Bridge-road.

LLANDILO.—In connection with a proposed water supply scheme, the U.D.C. has adopted the suggestion of the Llandeilo Council that application to borrow £7,000 to proceed immediately with the work be made to Ministry of Health.

LONDON (BERMONDSEY).—The L.C.C. has sanctioned the borrowing of £42,672 by the B.C. for paving work.

LONDON (GREENWICH).—The application of the B.C. to the L.C.C. for sanction to borrow £30,000 for housing purposes has been granted.

LONDON (HAMMERSMITH).—Drainage plans passed by B.C.: At 54, Frithville-gardens, for Mr. W. Wilson; 78, Stowe-road, for Mr. F. C. Dunn; 59, Gayford-road, for Mr. F. C. Dunn; 3, Southerton-road, for Mr. E. Ferris; 23, King-street, for Boots Pure Drug Co.; 102, Frithville-gardens, for Messrs. Matthews & Chester; 104, Frithville-gardens, for Messrs. Matthews & Chester; 145, Blythe-road, for Messrs. E. Whitaker & Co.; 12, Albion-gardens, for Mr. W. H. Davies; 48, Granville-gardens, for Mr. G. H. Batstone; 399, Goldhawk-road, for Messrs. W. Chapman & Sons; 19, St. Stephens-avenue, for Mr. F. Munton; 344, Goldhawk-road, for Mr. C. Pedlar; St. Katherine's Church, Wormholt Housing Estate, for Mr. R. Atkinson; "Olympia" Extension, Hammersmith-road, for Messrs. Holman & Goodrham; Gaumont Studios, Lime-grove, for Messrs. Leslie & Co.

LONDON (SOUTHWARK).—The B.C. has adopted a scheme for the extension of the Town Hall, Walworth-road, at a cost of £25,924.

MAIDSTONE.—The Board of Education is prepared to approve plans for the adaptation of Brunswick House, Maidstone, if purchased, for the purposes of the Boys' Grammar School.

MILFORD.—In regard to the contract for electric lighting and power supply made by Mr. James Williams of Narberth, with local authorities, a site has now been purchased by Mr. Williams for the erection of station at Mill Backs, Monkton, Pemb.

NORHAM AND ISLANDSHIRES.—Plans passed by R.D.C.:—Two cottages at Unthank; alterations to house at Norham, for Mr. M. Stranghan.

ORRELL.—Plans passed by U.D.C.: House, St. James-road, for Mr. J. P. Green.

PEMBROKESHIRE.—The County Council has received notification from the Ministry of Health that it declines to allow the Pantglas site, acquired for conversion to a mental home, to be sold by the Council, and calling on the Joint County Board to proceed with the £8,000, estimated, equipment scheme immediately.

PENARTH.—Schemes for improvements at Cogan Hill and Beach Hill have been approved by the U.D.C., and the surveyor has been instructed to prepare plans.——The schemes for Penarth improvements recently reported in these columns have been advanced and details can now be given. The work will shortly be put in hand after tenders have been invited. To further the matter, U.D.C. has decided to meet in August and have work carried on, if necessary, throughout the winter. Grants have been applied for in respect to new Cogan Hill and Beach Hill-roads from the Glamorgan County Council and Roads Board. Land acquisition negotiations are proceeding. The Cogan Hill scheme is estimated, in road preparation and laying alone, to cost £10,000. The esplanade widening is likely to be undertaken, and inquiry is on foot as to practicability of converting the Dingle to pleasure grounds for Penarth and Cogan residents.

PLYMOUTH.—Plans passed by T.C.: Mr. S. Perkins, dwelling house and workshop, Mill-street, Devonport; Mr. E. Murch, dwelling house, St. George's-avenue; Mr. P. A. Clapham, addition, Elm Cottage, Tavistock-road; Messrs. Joseph Hunter & Son, Ltd., warehouse, 23, Whimple-street; Messrs. Harding & Sons, addition to store, Devonshire-lane; Mr. S. Stone, dwelling house, Compton Park Villas-road; Mr. C. Harvey, garage rear of 5, Tamar-terrace, St. Budeaux; Mr. W. Hawke, alterations, Greenbank Mews; Messrs. Down & Co., new shop front, 49, George-street and 1, Bank of England-place; Mr. Wilson, garage adjoining Central-road, West Hoe.

PORTHCAWL.—The U.D.C. has decided to erect a number of public conveniences in the local government area. A committee has the matter of sites in hand, after which the work will be undertaken.

PRESTON.—Plans passed by T.C.:—Mr. M. Myres, eight semi-detached bungalows, Southern Parade; Mr. P. H. S. Sheppard, motor shed, 40, New Hall-lane; Mr. A. Smith, for the Victoria Bowling Club, Ltd., extensions, South Meadow-lane; Mr. G. Moorcroft, alterations, Lords-walk; Mr. J. Swarbrick & Son, bungalow, Pedders-lane; Mr. A. Billing, wood shed, Tulketh-crescent; Mr. R. Mercer, additions, 197, St. Paul's-road; Mr. J. Miller, bungalow, Cottam-lane; Mr. G. W. Cornall, alterations, Holme Slack-lane; Mr. E. J. Andrew, brass foundry, Milton-street and St. Peter-street; Mr. A. C. M. Lillie, for the Royal Infirmary, additions to Nurses' Home, Deepdale-road; Mr. W. Dryden, warehouse, North-road; Mr. W.

* See also our List of Contracts, Competitions, etc.

Dryden, extension to weaving shed, Trout-street (Bank Top Mill); Messrs. J. H. & W. Mangan, additions, 30, Fishergate; Mr. A. J. T. Ellison, garage, Brackenbury-road; Mr. J. J. Pearson, garage, Garstang-road.

RHONDDA.—The Rhondda U.D.C. contemplates the erection of a new bridge at Porth, and the construction of a new road at the same place. The widening of the old Porth bridge is also under consideration.

RICHMOND.—The County Surveyors of Surrey and Middlesex have presented a joint report on the condition of Richmond Bridge, which will be considered by the Surrey C.C. In their opinion the bridge is unsuitable for the traffic it now carries, and they advocate the construction of a new bridge, leaving the present structure for the use of local traffic and perhaps a limited amount of through traffic.

SEATON DELAVAL.—Plans for the new miners' club at New Hartley have been approved by the U.D.C.

SEDGEFIELD.—A plan has been passed by the R.D.C. for the improvement of houses at Mainsforth back-road, Ferryhill, for the Carlton Iron Company.

STANLEY.—Plans passed by U.D.C.: House and shop at Lake Lock-road, Stanley, for Mr. Harry Beale.

TEIGNMOUTH.—The opening up of another estate for building purposes seems possible, according to plans submitted to the U.D.C. for a dwelling-house to be erected on the Kingsdown estate.

TYNEMOUTH.—Garage, 30, Beverley-gardens, Cullercoats, by Mr. A. Reaveley, for Mr. C. L. Dobson; workshops, Little Bedford-street, by Messrs. J. C. Thompson & Son, for Mr. G. Fleming; Villa residence, Kenner's Dene Estate, by Messrs. Hope & Tasker, for Mr. Jos. Hogg, jun.; semi-detached villas, Kenner's Dene, by Messrs. Hope & Tasker, for Mr. Jos. Newbold; four dwelling-houses, Camp-terrace, by Messrs. Hope & Tasker, for Mr. G. A. Leek; washhouse, 32, Waterloo-place, for Mr. T. Hall; pavilion, Hawkey's-lane, by Mr. J. Atkinson, for Preston Lodge of Northumberland Miners' Association; semi-detached villas, Percy Park (Kenner's Dene Estate), by Messrs. Davidson & Riddle, for Mr. Loutit; alterations, 18, Howard-street, by Messrs. Harrison, Ash & Blythe, for Messrs. Brough, Ltd.

WARSOP.—The Board of Education has approved of the proposal of the Notts C.C. to purchase a site for a school.

WHARFEDALE.—The Adel Sewage and Lawnswood Sub-Committees of the R.D.C. has conferred with the Engineer (Mr. E. J. Silcock, of Leeds) with respect to the reopening of the Adel sewage scheme, which has been held up on account of the war. The Engineer was instructed to consider and advise upon the resuscitation of the suspended scheme and the desirability of now including areas which are at present or about to be developed.

WIMBLEDON.—Plans passed by B.C.: Mr. R. J. Thomson, additions, 69, Murray-road; Messrs. W. H. Whitehead & Co., garage, 15, Murray-road; Messrs. Wendon Bros., dwelling-house, Woodside; Mr. M. Williams, for alterations and additions to Southdown Laundry, Kingston-road; Messrs. J. Burges & Sons, dwelling-house, Church-road; Mr. C. S. Slade, two garages, 67–75, Kingston-road; Mr. H. Fenton, garage, 7, Courthope-road; Messrs. Humphrey & Allen, additions and alterations, 196 and 198, Merton High-street; Mr. W. L. Walker, dwelling house with stores at rear, in Effra-road; Mr. C. Robinson, motor garage, 13, Griffiths-road; Messrs. Crosby & Co., Ltd., two dwelling houses in Home Park-road.

WREXHAM.—The R.D.C. has resolved to apply for the Ministry's permission to borrow £4,897 for the erection of twelve houses at Cefn, and also for sanction to loans of £10,000 and £5,000 for the construction of sewerage and sewage disposal works at Broughton and Llay respectively.

YORK.—Plans passed by T.C.: E. Nicholson, greenhouse, 11, Beech-avenue; Shell-Mex, Ltd., tanks and stores, Layerthorpe; Shell-Mex, Ltd., buildings, Layerthorpe; Anglo-American Oil Co., oil tanks and sheds, Foss Islands-road; A. W. Cooper, shed, 39, Brownlow-street; North-Eastern Railway Co., dwelling house, Leeman-road; G. Knowlson, shed, 43, Scarcroft-Hill; T. Moore, shop window, 27, Heslington-road; R. Johnson, shed, 39, Sutherland-street; E. N. Laverack, additions, 85, Clarence-street; J. Taylor, garage, Mill-lane; C. Walker, additions, "White Swan" Hotel, Pavement. —As a result of negotiations between the York Public Library Committee and the Carnegie Trustees, the latter body have agreed to allow their offer of £12,000, made in 1916, to be used towards the proposed erection of a portion of the new library, and to increase the grant by 10 per cent., so that the Council may draw upon it should difficulty arise in making up the deficit in the cost of partial building from borough funds. The architects give the following approximate estimate of the cost:—(1) Back portion, comprising entrance hall, lending library, news room, magazine room, staff rooms, exhibition room, heating cellars, &c., £20,000; (2) front portion, comprising reference library, librarian's rooms, children's library, committee room, bookbinding room, £19,000; a total of £ 9,000.

FIRES.

HALIFAX.—Serious damage was done by fire, which broke out at the business premises of Thomas & Sons, toy dealers, &c., Union-street and Westgate, on Saturday evening.

KEIGHLEY.—Damage estimated at £7,000 to £10,000 was done on Saturday morning at the works of the Keighley Printers, Ltd., situated at High-street.

PAISLEY.—A fire has occurred at the Craw-road Institution, owned and administered by the Parish Council.

READING.—Great damage has been caused by fire to the premises in Broad-street occupied by Messrs. Woolworth & Co., and to the adjoining premises occupied by Messrs. Samuels.

SCARBOROUGH.—Considerable damage has been done by fire to the extensive timber works of Messrs. Galbraith, Wade & English, timber merchants, Brook-street.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

***Denotes accepted.** † **Denotes provisionally accepted.**
‡ **Denotes recommended for acceptance.**
§ **Denotes accepted subject to modifications.**

AVERHAM—Erection of outhouses, &c., at the Council School, for the Nottinghamshire C.C. :—
W. D. Tuck, Nottingham £200

BEESTON.—For construction of 16 houses in pairs, for the U.D.C. :—
*R. A. Whiting, Beeston, £672 per pair.

BERKHAMPSTEAD.—For addition to a house, 22,000 ft. cube. Mr. W. B. Hopkins, A.R.I.B.A., Dudswell Rise, near Berkhampstead :—

Y. J. Lovell & Son, Marlow ..	£2,718	0	0
Cannon Green & Co., Aylesbury	2,687	0	0
Holland & Hannen & Cubitts, Ltd.	2,652	0	0
J. W. Heath, Ltd., Kensington	2,651	0	0
W. Durant Wells, Picotts End	2,597	0	0
Thos. Shillitoe, Seven Sisters-road	2,575	0	0
C. Brightman & Sons, Ltd., Watford	2,565	0	0
Winter & Ward, Harpenden ..	2,543	0	0
H. & J. Matthews, Berkhampstead	2,444	17	0
Harpenden Building Co.	2,398	0	0
*J. Honour & Son, Ltd., Tring	2,269	0	0

BEVERLEY.—Resurfacing one and a-half miles of the main road between Beverley and Market Weighton, for the East Riding of Yorkshire C.C. :—
*H. Coxhead & Co., Middlesbrough ..£7,460

BIGGLESWADE, BEDS.—For re-roofing stables at the Ivel Mills, Biggleswade, for Messrs. H. Franklin & Son. Mr. Thomas Cockrill, architect and surveyor, 7, St. Paul's-square, Bedford :—

C. D. Woodward, Biggleswade	£313
G. Wrycroft & Sons, St. Neots	287
†G. Styles & Son, Biggleswade	245

BOURNEMOUTH.—For alterations and additions to the Pokesdown Council School, for the T.C. :—
*J. and A. Steane £4,245

CARLTON.—For construction of Lower Netherfield Sewerage Works, for the U.D.C. Mr. Austin H. Elliott, surveyor, Carlton, Nottingham :—

Thos. Bow, Nottingham	£2,650	0	0
Trent Concrete, Colwick, Nottingham	2,300	0	0
Hodsons, Ltd., Nottingham ..	1,993	6	2
P. Trentham, Birmingham	1,950	0	0
Wm. Moss, Loughborough....	1,925	0	0
A. H. Price & Co., Nottingham	1,891	9	2
Evans Bros., Riddings, Alfreton	1,748	11	2
A. Waddington, Sheffield	1,550	0	0
W. S. Royce, Leicester.....	1,546	8	7
*W. Mullins & Co., Doncaster ..	1,476	15	0

CHESTER.—For relaying surface of Northgate-street, for the T.C. :—
*Penmaenmawr and Trinidad Lake Asphalte Co...£3,173 (approximately).

CHESTER.—For resurfacing South Werburgh-street with rock asphalte, for the T.C. :—
*Penmaenmawr and Trinidad Lake Asphalte Co. £410

CHESTER.—For construction of anchorages, foundations and abutments for the Queen's Park new suspension bridge, for the T.C. :—
*W. H. Brocklesby £2,370 15

CHESTER.—Erection of Dutch bay on farm on Secland Estate, for the T.C. :—
*W. H. Smith & Co., Whitchurch .. £186 10

CHESTER.—For erection of 18 houses on Buddicom Park, for the T.C. :—
*National Building Guild, Ltd., Manchester £7,308

CHISWICK.—For supply of 12 street orderly trucks, for the Engineer and Surveyor's Dept. of the U.D.C. :—

T. H. Bates, Lichfield.....	£232	10	
G. Rowe & Son, Edmonton.....	196	10	
†Tuke & Bell, Lichfield.....	178	12	
New Destructor Co., Ltd., Pershore	165	0	
Pryke & Palmer, London.....	156	18	
W. Goodyear & Son, Dudley.....	149	0	
F. Bird & Co., West Drayton.....	144	0	
Eagle Engineering Co., Warwick..	144	0	
*East & Son, Ltd., Great Berkhamstead	135	0	
†Rowland Bros., Bletchley.....	132	0	

†Not to specification.

CONSETT.—For 24 houses at Grove Farm, Consett, for the U.D.C. Mr. F. Coyle, architect :—
*Lough Bros., Consett..... £425 each

COWDENBEATH.—For construction of a reinforced concrete sewer for the T.C. :—

Trentham, Ltd., Edinburgh ..	£726	13	8
Murray & Co., Glasgow	664	17	6
Casey & Darragh, Stirling	641	13	8
Clark & Chapman, Glasgow	604	3	0
Jas. Todd, Clackmannan	603	9	3
A. H. Robertson, Inverkeithing..	600	0	0
Jas. Ritchie, Dunfermline	596	12	9
A. Wilson, Cowdenbeath	536	4	0
A. Wilson, Jun., Edinburgh ..	522	1	8
J. & J. Street, Cowdenbeath	488	10	0
P. Adamson, Cowdenbeath	463	13	6
*Fife Building Co., Cowdenbeath..	451	0	2

DIDBROOK, GLOS.—For altering and extending Council School, for the Gloucestershire Education Committee. Mr. R. S. Phillips, County Education Architect, Shire Hall, Gloucester :—

Espley & Co., Evesham	£698	0	0
John Simmonds, Gloucester	599	0	0
F. A. Wain, Alderton	497	11	0
A. S. Cooke, Stroud	466	6	0
Chas. Fisher, Winchcombe	410	0	0
*J. A. Oakey, Winchcombe	345	0	0

DORCHESTER.—For erection of corrugated iron hut at Council School, for the Dorset E.C. :—
*J. F. Herridge..... £627 10

DORSETSHIRE.—For repair and adaptation of the existing farmhouse and buildings at Merley Hall Farm, for the subdivision of the farmhouse into cottages for four holdings, and the farm buildings into small sets of buildings for five holdings; for the repair of five cottages for new dairies and washhouses for five cottages, and for fencing and gates, for the Dorset Agricultural Committee :—

W. B. Ford	£4,496	0	0
Burt & Vick	3,920	0	0
Bournemouth Building Guild ..	3,883	0	0
Royce-Cook Construction Co. ..	3,881	1	0
K. Wilson	3,874	15	0
Bird & Pippard, Ltd.	3,200	0	0
*Hiscock & Co., Longham	2,384	17	6½

EAST STOKE.—For repairs, adaptation of house, &c., at small holdings, for the Notts C.C. :—
*W. H. Smith, Newark £1,097

GLASGOW.—Wrought-iron and bronze metal railings, gates, and grilles required for the Municipal Buildings extension, for the T.C. :—
*Crittal Manufacturing Co. £5,602 5

HEMSWORTH.—For laying of about 335 yards of 12 in. glazed earthenware Stanford-jointed pipe sewer at South Kirby, for the R.D.C. Mr. W. T. Lynam, Surveyor, Council Offices, Hemsworth, near Wakefield :—
*R. Beaumont & Co., Honley, Huddersfield £426 15

HENDON.—For laying about 4,000 yards super of 8 in. 9 in. by 3 in. by 4 in. creosoted deal blocks paving (renewals) in Finchley-road and Cricklewood-lane, for the U.D.C. Mr. A. O. Knight, Surveyor, Town Hall, Hendon, N.W.4 :—

J. Sangwin, Canning Town ..	£5,850	0	0
Campbell Kenyon & Co., Acton	4,075	0	0
Mowlem & Co., Westminster ..	3,650	0	0
Griffiths & Co., London	3,566	13	4
Acme Paving Co., London, E.	3,500	0	0
G. J. Anderson, Poplar	3,308	0	0
Improved Wood Co., Bishopsgate	3,300	0	0
Alexander Thomson, London, W.C.	3,275	0	0
*Howard Farrow, Golders Green	3,225	0	0

HERTFORD.—For alterations to fire station, for the T.C. The Borough Surveyor, The Castle, Hertford :—

W. J. Haward, Hoddesdon.....	£583	5	5
Walter O. Porter, Ware.....	430	5	0
Botsford, Vale & Wightman, Hertford	416	15	0
*Arthur Cole, Ltd., Luton.....	357	0	0

HULL.—For works in connection with the Electricity works extension, for the T.C. :—
*J. T. Levitt £8,644
(Previous tender accepted withdrawn.)

ILFORD.—Supply of tar for road purposes to the U.D.C. :—
*Bristowe's, Tarvia, Ltd...5,000 gallons "Tarvia" at 9d. per gallon.
*Crow, Catchpole & Co...5,000 gallons refined coal tar at 7½d. per gallon.

ILFORD.—Supply and fixing 206 yards of iron fencing at Maternity Home site, for the U.D.C. :—
*Hill & Smith..13s. 7d. per yard run.

KINGSWOOD.—Erection of 12 houses, for the U.D.C. :—
†E. Thomas & Son £4,700

LEYTON.—For painting of schools, for the U.D.C. :—

*Stoneley & Co., Forest Gate—Ruckholt-road School, exterior and interior.....	£959	0	0
*J. Robbins & Son, Leyton—Church-road Girls' and Infants' School exterior.....	163	15	0
*J. T. Luton & Son, Stratford—Farmer-road School exterior	398	0	0
*R. Haslam & Son, Woolwich—Sybourn-street (Permanent) School exterior.....	275	15	0
*P. Watts, Leyton—Capworth-street School interior.....	607	0	0
*The National Building Guild, Ltd., W.C. 1 — Norlington - road School interior.....	801	12	6
*H. C. Horswill, Forest Gate—Trumpington-road School interior	560	0	0
*F. J. Coxhead, Leytonstone—Goodall-road School, repairing roofs of playsheds.....	267	0	0

LEYTON.—For extension to school clinic, for the U.D.C. :—

H. C. Horswill, E.7.....	£295
H. Wilson, E.10	280
F. J. Coxhead, E.11.....	228
Marrable Bros., E.11.....	228
National Building Guild, Ltd., W.C.1..	223
J. & J. Dean, E.10.....	212
*E. A. Russell, E.11.....	190

LEYTON.—For repair and re-dressing of tar paving of playgrounds (*a*) Kirkdale-road; (*b*) Norlington-road, for the U.D.C. :—

F. G. Sheppard	(*a*)£52 10 0	(*b*)£201	5 0
A. C. W. Hobman & Co., Ltd.	,, 55 0 0	,, 205	0 0
Constable, Hart & Co., Ltd.	,, 46 17 8	,, 198	14 6
*Chittenden & Simmons, Ltd.	,, 46 14 7	,, 187	16 4

LONDON.—The following tenders have been accepted by the L.C.C. :—

Painting and Cleaning of Council Schools.

Amberley-road (*Paddington, N.*)—
W. Daley & Co., Acton £2,026 0 0
A. S. Franklin, Kensington 1,996 0 0
H. Pickrill, Wealdstone 1,900 0 0
G. N. Watts, Ltd., Notting-hill 1,777 10 0
Aldin Bros. & Davies, London 1,706 12 0
I. C. Tennant & Co., Willesden 1,631 0 0
G. Godson & Sons, Ltd., Kilburn 1,608 0 0
Payne Bros., Leavesden, Watford 1,544 0 0
A. & F. Polden, Shepherd's Bush 1,530 0 0
J. P. Williams, Ltd., Notting-hill 1,470 0 0
Lane Bros., Kensington 1,201 0 0
*B. Colley & Sons, Ltd., London 1,196 0 0

Ancona-road (*Woolwich, E.*)—
J. Hocking & Co., Charlton £2,032 15 0
J. Knight, Sidcup 1,910 0 0
Thomas & Edge, Woolwich 1,787 0 0
Douglass, Halse & Co., Ltd., Woolwich 1,712 0 0
H. Kent, Hither-green 1,679 0 0
W. Mills & Sons, Ltd., Blackheath 1,620 0 0
J. H. Sutch & Sons, Plumstead 1,567 0 0
Edwards Construction Co., Ltd., Eltham 1,542 0 0
J. Scott Fenn, Woolwich 1,494 18 0
*D. C. Bowyer, Belvedere 1,251 1 8

Bermondsey Central and Monnow-road (*Bermondsey, W.*)—
W. Nicholson & Son, Leeds £3,907 18 10
W. S. Barton & Co., E.C. 3,491 0 0
E. C. Sames & Co., Southwark 3,444 10 0
G. Parker & Sons, Ltd., Peckham 3,278 0 0
Prestige & Co., Ltd., S.W. 1,954 0 0
*W. J. Dixon & Son, Bermondsey 1,740 0 0

Brockley-road (*Lewisham, W.*)—
A. Coldman & Son, Dulwich £2,034 9 8
W. Lawrence & Son, Ltd., Finsbury 1,517 0 0
Hill & Gurr, Bromley 1,412 0 0
N. Harris & Sons, Brockley 1,289 12 6
A. Black & Son, Forest-hill 1,187 0 0
*Lister & Co. (Builders), Ltd., E.C. 1,152 0 0

Burghley-road Elementary and Central (*St. Pancras, N.*)—
Pitcher Construction Co., Ltd., Holloway £6,438 0 0
Payne Bros., Leavesden 2,773 0 0
H. Pickrill, Wealdstone 2,748 0 0
McCormick & Sons, Ltd., N. 2,744 0 0
F. W. Dean, Marylebone 2,681 0 0
Marchant, Hirst & Co., Highgate 2,493 0 0
L. Kazak, Hampstead 2,417 0 0
*F. Cottrell, Ltd., Crouch-hill 2,397 10 0

Canonbury-road (*Islington, E.*)—
F. Bull, Clapton £1,489 0 0
A. G. Barton, Walthamstow 1,468 0 0
G. Keetch, Hackney 1,373 0 0
Chessums, Ltd., Tottenham 1,352 0 0
Brand, Pettit & Co., Tottenham 1,332 0 0
A. Monk, Lower Edmonton 1,303 0 0
Holland & Hannan & Cubitts, Ltd., W.C. 1,227 0 0
J. Groves & Sons, Tottenham 1,175 0 0
*Stevens & Sons, Crouch-hill 1,118 0 0

Conway-road (*Woolwich, E.*)—
J. Hocking & Co., Charlton £1,962 0 0
T. Knight, Sidcup 1,713 0 0
H. Kent, Hither-green 1,705 0 0
H. J. Vaughan, Plumstead 1,653 0 0
W. Mills & Sons, Ltd., Blackheath 1,650 0 0
H. Groves & Son, Greenwich 1,635 10 0
A. G. Shorter, Greenwich 1,595 0 0
Douglass, Halse & Co., Ltd., Woolwich 1,567 0 0
J. Scott Fenn, Woolwich 1,547 0 0
Thomas & Edge, Woolwich 1,456 0 0
*Edwards Construction Co., Ltd., Eltham 1,368 19 0

Ennersdale, The (*Lewisham, E*)—
Bovis, Ltd., W. £1,557 0 0
T. Graham & Co., Beckenham 1,389 0 0
W. Bickerton, Catford 1,388 10 0
N. Harris & Sons, Brockley 1,382 7 0
Cole, Loasby & Co., W.C. 1,370 0 0
H. Groves & Son, Greenwich 1,290 0 0
J. Scott Fenn, Woolwich 1,266 0 0
*Hill & Gurr, Bromley 1,249 0 0

Fossdene-road (*Greenwich*)—
H. Kent, Hither-green £2,219 0 0
W. Mills & Sons, Ltd., Blackheath 2,200 0 0
H. J. Vaughan, Plumstead 2,027 0 0
J. Scott Fenn, Woolwich 1,887 16 0
H. Groves & Son, Greenwich 1,844 0 0
Edwards Construction Co., Ltd., Eltham 1,796 18 0
A. G. Shorter, Greenwich 1,755 0 0
*Thomas & Edge, Woolwich 1,650 0 0

Fountain-road (*Balham and Tooting*)—
J. Potterton & Sons, Balham £1,883 10 0
A. Phelps & Wilton, Ltd., Streatham, S.W. 1,418 0 0
Rice & Son, S.W. 1,362 1 4
Snelling & Rayment, Streatham 1,331 0 0
E. Green, Wandsworth 1,295 0 0
A. Soden, Streatham 1,250 0 0
G. Hill & Son, Ltd., Streatham 1,200 0 0
W. G. Tarrant, Ltd. Byfleet 1,185 0 0
Chappell Bros., Balham 1,155 0 0
J. Garrett & Son, Balham 1,089 0 0
A. A. Secrett, Ltd., Wallington 1,087 0 0
*W. H. Gaze & Sons, Ltd., Kingston 1,083 0 0

Haseltine-road (*Lewisham, W.*)—
Cullen & Lumsden, Ltd., W.C. £2,101 0 0
A. & F. J. Leather, Westminster 2,056 0 0
W. Akers & Co., Ltd., Norwood 1,938 0 0
J. & C. Bowyer, Ltd., Norwood 1,913 0 0
S. N. Soole & Son, Richmond 1,892 0 0
A. G. Winters, Norwood 1,846 0 0
*W. Bickerton, Catford 1,746 10 0

Plassy-road (*Lewisham, E.*)—
Bovis, Ltd., W. £2,418 0 0
Cole, Loasby & Co., W.C. 2,220 0 0
Finch & Finch, Hither-green 2,161 0 0
Hill & Gurr, Bromley 2,075 0 0
N. Harris & Sons, Brockley 2,019 5 0
W. Bickerton, Catford 1,963 5 0
T. Graham & Co., Beckenham 1,865 0 0
H. Groves & Son, Greenwich 1,825 0 0
*W. Bailey, Greenwich 1,753 0 0

Purrett-road (*Woolwich, E.*)—
J. H. Sutch & Sons, Plumstead £2,484 0 0
Edwards Construction Co., Ltd., Eltham 2,403 0 0
T. Knight, Sidcup 2,330 0 0
H. Kent, Hither-green 2,307 0 0
W. Mills & Sons, Ltd., Blackheath 2,250 0 0
W. Bailey, Greenwich 2,200 0 0
Douglass, Halse & Co., Ltd., Woolwich 2,184 0 0
D. C. Bowyer, Belvedere 2,092 12 3
*Thomas & Edge, Woolwich 2,089 0 0

Shoreditch Technical Institute (*Shoreditch*)—
E. A. Roome & Co., Ltd., Hackney £2,180 0 0
G. Keetch, Hackney 2,094 0 0
W. T. Lawrence, W.C. 2,006 0 0
E. Pollard & Co., Ltd., Clerkenwell 1,895 0 0
Townsend & Pearson, Ltd., W. 1,833 0 0
Holland & Hannen & Cubitts, Ltd., W.C. 1,778 0 0
A. Monk, Edmonton 1,700 0 0
W. Lawrence & Son, Ltd., Finsbury 1,660 0 0
G. Butters, Hackney 1,609 10 0
*Whitbys, Ltd., W.C. 1,211 3 0

Stillness-road (*Lewisham, W.*)—
W. Fitch, Brixton £1,710 0 0
A. Coldman & Son, Dulwich 1,562 13 2
A. & F. J. Leather, Westminster 1,276 0 0
Mullen & Lumsden, Holborn 1,274 0 0
A. G. Winters, Norwood 1,251 0 0
W. Akers & Co., Ltd., Norwood 1,227 0 0
S. N. Soole & Son, Richmond 1,225 0 0
Courtney & Fairbairn, Ltd., Camberwell 1,218 0 0
J. & C. Bowyer, Ltd., Norwood 1,182 0 0
*A. Black & Son, Forest-hill 1,143 0 0

Sydenham Hill-road (*Lewisham, W.*)—
A. G. Winters, Norwood £1,796 0 0
Finch & Finch, Hither-green 1,789 8 0
A. & J. F. Leather, Westminster 1,649 0 0
Mullen & Lumsden, Ltd., Holborn 1,559 0 0
Courtney & Fairbairn, Ltd., Camberwell 1,549 0 0
J. & C. Bowyer, Ltd., Norwood 1,523 0 0
W. Akers & Co., Ltd., Norwood 1,461 0 0
S. N. Soole & Son, Richmond 1,370 0 0
*A. Black & Son, Forest-hill 1,195 0 0

Westbourne-road (*Islington, W.*)—
H. J. Edgar, W. £2,250 0 0
Purser & Furlong, Leighton Buzzard 1,898 0 0
Harrison & Co., Cricklewood 1,661 0 0
G. Godson & Sons, Ltd., Kilburn 1,635 0 0
F. W. Dean, Marylebone 1,576 0 0
L. Kazak, Hampstead 1,452 0 0
J. Kinninmont, Paddington 1,195 0 0
*B. Colley & Sons, Ltd., Holland-park 1,145 0 0

West-square Elementary and Central (*Southwark, N.*)—
E. C. Sames & Co., Bow £2,525 5 0
G. Parker & Sons, Ltd., Peckham 5,525 0 0
Courtney & Fairbairn, Ltd., Camberwell 2,262 0 0
W. S. Barton & Co., W.C. 1,668 0 0
Prestige & Co., Ltd., S.W. 1,656 0 0
J. Marsland & Sons, Ltd., W. 1,542 0 0
W. Nicholson & Sons (Leeds), Ltd. 1,499 4 0
*W. J. Dixon & Son, Bermondsey 1,462 0 0

Heating installation at Highway Graded School Whitechapel :—
The Central Heating Co., Ltd., S.E. £2,800 0 0
The Fretwell Heating Co., Westminster 2,233 0 0
J. T. Meredith & Co., Ltd., S.E. 2,144 0 0
Beaven & Sons, Ltd., Westminster 1,997 0 0
Wm. Griffiths, Sons & Cromwell, Ltd., Liverpool 1,995 0 0
G. Jennings, Ltd., Lambeth 1,980 0 0
W. G. Cannon & Sons, Ltd., Southwark 1,934 0 0
J. Jeffreys & Co., Ltd., London 1,929 0 0
Thames Bank (Blackfriars) Iron Co., Ltd. 1,597 0 0
*J. & F. May, London 1,587 0 0

LONDON.—Erection of trailer car shed at Brixton Hill, for the L.C.C. :—
Walter Jones & Sons, S.W. £20,182 7 8
John Garrett & Son, S.W. 20,013 0 0
F. & H. F. Higgs, Ltd., S.E. 19,100 0 0
Douglass, Halse & Co., Ltd., S.E. 18,990 0 0
Courtney & Fairbairn, Ltd., S.E. 18,938 0 0
Patman & Fotheringham, Ltd., N. 18,681 0 0
Holliday & Greenwood, Ltd., S.W. 18,588 0 0
Leslie & Co., Ltd., W. 18,551 0 0
J. & C. Bowyer, Ltd., S.E. 18,384 0 0
Holland & Hannen & Cubitts, Ltd., W.C. 18,250 0 0
James Smith & Sons, Ltd., W. 17,989 0 0
Walter Lawrence & Son, Ltd., E.C. 17,971 0 0
C. P. Roberts & Co., Ltd., E. 17,950 0 0
G. E. Wallis & Son, Ltd., S.W. 17,744 0 0
James Carmichael (Contractors), Ltd., S.W. 17,673 0 0
Allen Fairhead & Son, Enfield 17,617 0 0
Holloway Bros. (London), Ltd., S.W. 17,272 0 0
G. Godson & Sons, Ltd., W. 17,263 0 0
Prestige & Co., Ltd., S.W. 17,172 0 0
Rowley Bros., N. 16,995 0 0
*L. H. & R. Roberts, E. 14,986 0 0

LONDON.—For external painting to buildings, for the City of London Corporation :—
*Walter Lawrence & Son, at Corporation Buildings £1,313 0
*L. & W. Whitehead, at Viaduct Buildings 246 14
*Builders' Engineering Co., at 18 and 35, Mount-street 99 10

LONDON.—For maintenance and repairs of carriageway and footways of Blackfriars Bridge, for twelve months, for the City of London Corporation :—
*J. G. Anderson £1,500

LONDON.—For supplying and fixing 14 steel rolling shutters at Central Repair Depot, for the L.C.C. :—
Milner's Safe Co., Ltd., E.C. £2,348 0 0
P. & W. Anderson, Ltd., W. 2,250 0 0
A. L. Gibson, Twickenham 1,923 5 9
S. W. Francis & Co., Ltd., W.C. 1,792 0 0
*Wilson Rolling Shutter Co., Bradford .. 1,790 5 0

LONDON.—For the erection of a concrete chamber at Electricity Works, for the Hammersmith B.C. :—
Kinnear, Moodie & Co., Ltd. £575
W. Alban Richards & Co., Ltd. 455
J. Dorey & Co., Ltd. 454
J. McManus, Ltd. 315
*G. Wimpey & Co., Ltd. 303

LONDON.—For external repairs at Tate Library, for the Lambeth, B.C. :—
*Walter Lilly & Co. £187

LONDON.—Erection of office, store and flat on Holderness House Estate, for the Lambeth B.C. :—
*F. & H. F. Higgs, Ltd. £964

LONDON.—For alterations at baths in connection with the conversion of the swimming bath for use as public hall during the winter months, for the St. Marylebone B.C. :—
Y. J. Lovell & Son £2,295
F. Mark 2,150
J. Simpson & Son 2,147
C. Tavener & Son 2,074
H. Mackhonik 1,947
John Marsland & Sons, Ltd. 1,748
Allen Fairhead & Son 1,743
*Bovis, Ltd. 1,634

LONDON.—For repairs at tenements in Crawford-place dwellings, for the St. Marylebone B.C. :—
F. Troy & Co. £115

LONDON.—For decorative repairs to Caxton Hall for the Westminster C.C. :—
H. White £802 10 0
Wm. Whiteley, Ltd. 695 0 0
W. Wright & Son 681 0 0
J. R. Sims 621 0 0
Army & Navy Co-operative Society, Ltd. 593 0 0
Townsend & Pearson, Ltd. 483 0 0
*Domart (D. G. Somerville & Co., Ltd.) 425 8 9

LONDON.—For remodelling the heating installation at South Audley-street Library, for the Westminster C.C. :—
Chas. P. Kinnell & Co., Ltd. £348 0 0
The Central Heating Co. 345 0 0
Z. D. Berry & Sons 298 10 0
*J. Wontner-Smith, Gray & Co., Ltd. 247 16 0

LONDON, S.W.—For internal repairs and redecorations to the Nurses' Home, at the Infirmary, Cale-street, Chelsea, for the Chelsea Guardians. Mr. Edward J. Harrison, Lic.R.I.B.A., 23, Berkeley-road, Crouch End, N. 8 :—
W. & H. Matthews, Chelsea £1,215 0 0
Dilliway & Elvy, Richmond-road, W.14 ..... 1,175 0 0
T. W. Heath, Ltd., Cromwell-road, S.W. 1,150 0 0
J. J. Powers, Tottenham 1,045 19 8
A. H. Inns, Devonshire-square, E.C. 985 0 0
Peter Jones, Ltd., Symons-street, S.W. 983 10 0
F. C. Flack, Clonmore-street, S.W. 853 0 0
Domart, Ltd., Kensington 800 0 0
A. E. Hatton, Kilburn 787 10 0
Breves, Ltd., Sloane-street, S.W. 774 0 0
White & Johnson, Chelsea 730 0 0
M. McCarthy, Clapham Park 725 0 0
R. I. Senecal, Gray's Inn-road, W.C. 720 0 0
Stoneley & Co., Forest Gate 690 0 0
H. Meckhonik, Upper Berkeley-street, W. 685 10 0
Thos. Carr, Drury-lane, W.C. 675 0 0
Unity Builders' Co., Sloane-square 658 8 0
Welchman & Wise, Ennismore-gardens, S.W. 624 0 0
J. Scott Fenn, Woolwich 588 18 0
*S. T. Wright, Upper Kennington-lane, S.E.11 ..... 490 0 0

LONDON, N.—For painting and internal repairs to four wards and annexes, and to the second floor of the Nurses' Home, at the Infirmary, Highgate-hill, for the Guardians of St. Mary, Islington. Mr. Edward J. Harrison, Lic.R.I.B.A., 23, Berkeley-road, Crouch End, N. 8 :—
Yeomans & Richardson, Hornsey-road, N. 19 ..... £1,462 0
W. Gregory, 41, Craven Park-road, Harlesden 1,389 0
Stevens & Sons, Highgate 1,186 0
W. Houghton, Wood Green 1,100 0
Perry Bros., Whitecross-street, E.C. 1,047 0
R. W. Bowman, Stepney 1,035 0
W. Chappell, Maida Vale 1,025 0
Green & Sons, Upper Holloway 953 0
J. A. Hunt (Builders), Ltd., Highgate-hill 852 12
A. R. Willats & Co., Gray's Inn-road, W.C. 820 0
Thos. Carr, Drury-lane, W.C.2 ..... 784 0
A. H. Inns, Devonshire-square, E.C. 784 0
*Fred. Cousins, 20, Wedmore-street, Holloway 774 16

LONDON.—For street works in connection with Parkin's Rents Improvements, St. Peter-street, for the Westminster B.C. :—

French Asphalt Co., Ltd.	£877	17	6
John Mowlem & Co., Ltd.	839	3	4
Val de Travers Asphalt Co., Ltd.	810	2	1
*Limmer and Trinidad Lake Asphalt Co., Ltd.	803	11	8

LONDON.—For laying of macadam in Rossmore-road, Burne-street, and Carlisle-street, for the St. Marylebone B.C. :—

*Limmer & Trinidad Lake Asphalte Co...At 14s. 6d. per square yard, and in Stratford-place 13s. per square yard.

LONGFIELD.—For a bungalow for Mr. S. H. Carr, Longfield, Kent. Mr. F. Nash, M.S.A., architect, Lincoln's Inn, W.C.2 :

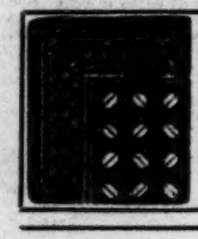
Messrs. West Bros., Strood, Kent.	£1,184
A. W. Taylor, Orpington, Kent	875

LUCTON.—For repairs, alterations, painting and decorating at school, for the Governors. Messrs. Bettington & Son, Palace-chambers, Hereford. Quantities by Messrs. Bettington & Son, Palace-chambers, Hereford :—

*G. Hill & Son, Ledbury £1,425 1

NEWCASTLE.—For building 36 houses in flats at Watson-street, Walker, for the City Council :—

*Messrs. H. Kelly £8,900



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ONGAR (ESSEX).—For alterations to International Stores and G.P.O. premises. Messrs. Cheritons, Ltd., architects, 8, Canfield Gardens, Hampstead, N.W.6 :—

G. Parker & Sons, Ltd., Peckham	£1,593	0	0
G. Everitt & Sons, Ltd., Croydon	1,399	0	0
F. M. Noble, Ongar	1,391	2	9
Foster & Sons, Loughton	1,385	0	0
*J. W. Shawe, Ongar	1,349	0	0

PAIGNTON.—For the erection of house in Orient-road, Preston, Paignton, for Mrs. Gates. Messrs. Colborne & Gates, architects, Gerston Chambers, Paignton. Quantities by Mr. G. S. Harris, 36, Hyde-road, Paignton, and Fleet Chambers, Torquay :—

W. Jury, Paignton	£1,130
R. Harris & Sons, Paignton	1,009
H. Maunder & Sons, Paignton	995
Endicott & Matthews, Paignton	986
†W. H. Webber, Paignton	970

PRESTON.—For (*a*) locomotive and (*b*) steam crane, for the Water Department of the T.C. :—

*(*a*) Hunslet Engine Co.	£1,327
*(*b*) Grafton & Co.	685

PLYMOUTH.—Extension of Milehouse Tramways Depot, for the T.C. :—

*A. C. Jones & Son £6,287

PLYMOUTH.—For (*a*) new retort benches, and (*b*) alteration and extension of telpher track, for the Gas Dept. of the T.C. :—

*Drakes, Ltd., Halifax..(*a*) £9,225..(*b*) £3,250

RHOSLLANERCHRUGOG.—For erection of drill hall, for the Denbighshire T.A. Association. Captain G. Griffith, architect, Post Office-lane, Denbigh :—

S. & J. Davies, 1, Stanley-road, Ronkey, Wrexham	£1,495	0	0
H. A. Jones, Salisbury-road, Wrexham	1,392	0	0
J. W. Kent, Wharf-street Joinery Works, Burslem, Stoke-on-Trent	1,348	0	0
W. F. Humphreys & Son, Acrefair, Ruabon	1,347	10	0
J. C. Vaughan, Roft-street, Oswestry	1,187	19	4
E. W. Gittins, Aberderfyn, Ronkey, Wrexham	1,135	0	0
*S. Mitchell, Russell-street, Cefn, Ruabon	1,090	0	0

ST. ALBANS.—For the erection of St. Albans Vicarage, Windlesham. Mr. C. S. Kimpton, A.R.I.B.A. architect, Sunningdale. Quantities by Messrs. W. E. Davis & Son :—

E. Pack & Son	£2,565
Norris & Co.	2,475
J. H. Wakelin	2,450
*Walter Lucas	2,236

STALBRIDGE.—For repairs, &c., at Station-road farm, for the Dorset Agricultural Committee :—

*F. H. Ryall £499 4

SUTTON-IN-ASHFIELD.—Repairs to house, buildings, &c., at Grange Farm, small holdings, for the Notts C.C. :—

I. Slack, Mansfield £221

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WALTHAMSTOW.—For alterations and additions to the Public Baths, situate High-street, for the U.D.C. Mr. J. Williams Dunford, architect, Cleveland Park-avenue, Walthamstow. Quantities by Mr. E. C. Harris, 39, Bloomsbury-square, W.C.1 :—

Heywood & Bryett, Blackheath	£13,303
Killby & Gayford, Finsbury	13,263
Henry Knight & Son, Tottenham	13,181
Pitcher Construction Co., Holloway	12,987
W. Silk & Son, Homerton	12,980
H. C. Horswill, Forest Gate, E.7	12,900
Albert Monk, Lower Edmonton	12,760
D. G. Somerville & Co., Westminster	12,603
Herbert E. Jerram, East Ham	12,551
Walter Jones & Sons, Westminster	12,458
J. & J. Dean, Walthamstow	12,366
C. Miskin & Sons, St. Albans	12,286
Douglas Halse & Co., Woolwich	12,127
E. J. Logan, High Holborn	12,112
Marrable Bros., Leytonstone	11,850
R. Woollaston & Co., Limehouse	11,827
†Thomas Shillitoe, N.7	11,750

YORK.—For making up Poppleton-road, for the T.C. :—

*C. Martin, Ltd. £4,063 6 6

YORK.—For construction of mortuary, hand laundry, etc., at the Maternity Hospital, for the T.C. :—

*F. Shepherd & Son £236

YORK.—For (1) painting interior of Poppleton School; (2) painting interior of Priory-street School, for the T.C. :—

*(1) Bellerbys, Ltd.	£425	0	0
*(2) C. Martin, Ltd.	192	18	6

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